

Seton Hall University

eRepository @ Seton Hall

Seton Hall University Dissertations and Theses
(ETDs)

Seton Hall University Dissertations and Theses

Summer 8-24-2021

Exploring the Relationship Between Burnout and Supervisory Support Among Respiratory Therapists

Ahmad Eissa Alhaykan

Seton Hall University, ahmad.alhaykan@student.shu.edu

Follow this and additional works at: <https://scholarship.shu.edu/dissertations>



Part of the [Health and Medical Administration Commons](#)

Recommended Citation

Alhaykan, Ahmad Eissa, "Exploring the Relationship Between Burnout and Supervisory Support Among Respiratory Therapists" (2021). *Seton Hall University Dissertations and Theses (ETDs)*. 2929.
<https://scholarship.shu.edu/dissertations/2929>

Exploring the Relationship Between Burnout and Supervisory Support Among
Respiratory Therapists

By

Ahmad Eissa A. Alhaykan

Dissertation Committee:

Chair: Dr. Genevieve Zipp, P.T., Ed.D.

Dr. Michelle L. D'Abundo, PhD, MSH, CHES

Dr. Lynda Goodfellow, RRT, Ed.D.

Submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy of Health Sciences

Department of Interprofessional Health Sciences and Health Administration (IHSA)

Seton Hall University

August 2021

Copyright © 2021 Ahmad Eissa A. Alhaykan

All Rights Reserved



School of Health and Medical Sciences

Department of Interprofessional Health Sciences and Health
Administration

APPROVAL FOR SUCCESSFUL DEFENSE

Ahmad Eissa A. Alhaykan has successfully defended and made the required modifications to the text of the doctoral dissertation for the PhD in Health Sciences during this Summer, 2021

DISSERTATION COMMITTEE

<u>Dr. Genevieve Zipp, P.T., Ed.D.</u>	<u>8/24/21</u>
Mentor	Date
<u>Dr. Michelle L. D'Abundo, PhD, MSH, CHE</u>	<u>8/24/21</u>
Committee Member	Date
<u>Dr. Lynda T. Goodfellow, RRT, Ed.D.</u>	<u>8/24/21</u>
Committee Member	Date

ABSTRACT

Background: Respiratory therapists (RTs) provide patient-centered care in diverse clinical settings for various patients. RTs most frequently work with acutely injured and critically ill patients. Working with these populations often takes an emotional toll on the practitioner, resulting in high rates of burnout. A high prevalence of burnout has been detected among health professionals. Even though RTs face unique stresses in the workplace, there is a lack of research addressing burnout among these professionals. Because workplace stressors are not expected to decrease in the near future in healthcare organizations, the search for protecting factors against burnout, such as supervisory support, is particularly relevant. **Purpose:** This study aimed to examine the relationships between the three dimensions of burnout syndrome (EE, DP& PA) and the perceived supervisory support within the respiratory therapy profession. **Methods:** A cross-sectional correlational survey design was used in which recruitment was done through posting the link of the survey on the AARC-Connect platform and respiratory therapy Facebook closed groups. The link included: 1- the Maslach Burnout Inventory-Human Services Survey (MBI-HSS (MP), 2- the Survey of Perceived Supervisor Support, and 3- demographic questions. **Results:** Of 295 RTs who completed the survey, 81% were female, and only 19% were males. 34% of RTs met the criteria for severe burnout, and more than 60% were emotionally exhausted. Also, there were significant differences between the mean scores of EE, DP, PA for RTs, and the medicine norm. In addition, RTs, on average, experienced a low level of supervisory support (49.5%) at their workplace. Interestingly, a negative correlation was found between burnout levels and the perception of supervisory support levels ($r_s = -.262, p <$

.001). **Conclusion:** Burnout is prevalent among RTs in the United States. Also, overall burnout is significantly related to how much supervisors support RTs. Lastly, this study provides insights on the specific positive impact of supervisory support on burnout among respiratory therapists.

Keywords: Burnout, Respiratory Care, Respiratory Therapists, Supervisory Support.

Acknowledgments

First and foremost, I thank God, the one who is most deserving of thanks and praise for his guidance and support during my PhD journey as well as throughout my life. I want to express my deepest appreciation to my chair committee, Dr. Genevieve Pinto Zipp, for her support and guidance throughout my doctoral study. I have learned a lot from her supervising me. The completion of my dissertation would not have been possible without her support and nurturing.

I would also like to extend my deepest gratitude to Dr. Michelle D'Abundo. Her input and support were outstanding and invaluable. Also, I cannot begin to express my thanks to Dr. Lynda Goodfellow from Georgia state university, who accepted my invitation to be a dissertation committee member. It is my honor to be one of my committee members for the second time. Thank you for her excellent feedback, comments, and advice.

Dedication

I want to dedicate this dissertation to all my family members for their unwavering support and encouragement throughout my academic endeavor. To my father, thank you for all that you have done since I was a kid. To the loving memory of my mom. May Allah grant mercy upon her soul. To my beloved wife, Jawaher, who has continuously supported me through every step of this long journey. To our children - Eyad, Basel, and Orjowan – our most valuable treasure, may Allah protect you and guide you to do good deeds.

Table of Contents

ABSTRACT.....	IV
ACKNOWLEDGMENTS	VI
DEDICATION.....	VII
LIST OF TABLES	XI
LIST OF FIGURES.....	XII
CHAPTER I: INTRODUCTION	1
BACKGROUND OF THE PROBLEM.....	1
SUMMARY	15
PROBLEM STATEMENT	16
SIGNIFICANCE OF THE STUDY	17
PURPOSE OF THE STUDY	18
RESEARCH QUESTIONS AND HYPOTHESES	18
CHAPTER II: REVIEW OF THE LITERATURE.....	21
PREVALENCE OF BURNOUT IN RESPIRATORY CARE.....	23
PREVALENCE OF BURNOUT IN PHYSICIANS	26
PREVALENCE OF BURNOUT IN NURSING	27
PREVALENCE OF BURNOUT IN CRITICAL CARE HEALTHCARE PROFESSIONALS	29
SUPERVISORY SUPPORT AND BURNOUT.....	31
GAPS IN THE LITERATURE	33
THEORETICAL FRAMEWORK.....	36

CHAPTER III: METHODOLOGY	42
INTRODUCTION	42
RESEARCH DESIGN	44
SAMPLING AND PARTICIPANTS	45
INSTRUMENTATION, RELIABILITY, AND VALIDITY	47
VARIABLES.....	49
PROCEDURE	51
DATA ANALYSIS.....	52
CHAPTER IV: RESULTS.....	55
G-POWER ANALYSIS.....	55
STUDY RESPONDENTS.....	55
DEMOGRAPHIC CHARACTERISTICS	57
PRIMARY PRACTICE AREAS OF RTs.....	59
WORKING HOURS PER WEEK OF RTs	61
RESEARCH QUESTIONS/HYPOTHESES	61
<i>Prevalence of burnout in RTs</i>	<i>61</i>
<i>RTs' MBI subscales versus Medicine norm MBI subscales</i>	<i>64</i>
<i>Perception of supervisory support in RTs.....</i>	<i>67</i>
<i>The relationship between burnout and supervisory support in RTs</i>	<i>70</i>
SUMMARY FINDINGS	77
CHAPTER V: DISCUSSION	79
INTRODUCTION	79

RESEARCH FINDINGS.....	81
STUDY LIMITATIONS.....	84
RECOMMENDATIONS FOR FUTURE RESEARCH	85
CONCLUSION	85
IMPLICATIONS FOR PRACTICE	86
REFERENCES.....	88
APPENDICES	96
APPENDIX A.....	96
APPENDIX B	100
APPENDIX C.....	101
APPENDIX D.....	102
APPENDIX E	103

List of Tables

Table 1	57
Table 2	57
Table 3	58
Table 4	58
Table 5	60
Table 6	62
Table 7	64
Table 8	65
Table 9	66
Table 10	66
Table 11	68
Table 12	70
Table 13	71
Table 14	72
Table 15	73
Table 16	75
Table 17	76

List of Figures

Figure 1: The Job-Demand Resources Model of Burnout.....	37
Figure 2: Organizational Support Theory (OST).	41
Figure 3: priori sample size calculation	46
Figure 4: Study Procedure.	52
Figure 5 : Post-Hoc sample size calculation.	55
Figure 6: Respondents' years of experience as RTs.	60
Figure 7: Respondents' working hours per week.	61

Chapter I: Introduction

Background of the Problem

Burnout is one of the most critical work-related psychological hazards in various health professions (WHO, 2019). The phenomenon of burnout has been extensively investigated in the health care literature since the 1970s (Maslach & Leiter, 2014). However, in the beginning, it was considered as a potential hazard for human services and caring personnel, but it was not recognized and discussed publicly. It was primarily a banned topic due to its concept of unprofessionalism within human services workers that lead them to act in an unprofessional way. The term "burnout" was first introduced in 1974 by Freudenberger, a clinical psychologist who was interested in alternative medicine to describe employees' reactions to the chronic stress among workers in occupations involving many interpersonal interactions (Freudenberger, 1974). Later, Christina Maslach, a social psychologist, published a study that addressed workplace emotions (Maslach, 1976). She (1982) later defined burnout as a psychological syndrome involving Emotional Exhaustion (EE), Depersonalization (DP), and a decreased Personal Accomplishment (PA) that occurred among various professionals who work continuously with people under challenging circumstances. Since that time, a considerable number of studies about burnout among health care professionals have been published. Indeed, Burnout and Health Care Editorial Board (2014) pointed out that more than 1,000 journal articles on different parts of burnout are published every year all over the world.

Psychological stress refers to the imbalanced relationship between the persons and their environment by external factors that are perceived by the individuals as

physically or mentally demanding, exceeding their personal or social resources and disrupting the well-being (Lazarus & Folkman, 1984). These external factors are usually called stressors, as they have the potential to exert a negative impact on most people in most situations (Demerouti et al., 2001). Although stress may make some people be more focused, chronic and excessive stress has detrimental effects such as feeling pressured and being overwhelmed. Despite the fact that burnout is widely investigated in the healthcare literature, there is no standard definition for burnout. Maslach (1982) refers to burnout as a psychological syndrome that is characterized by a prolonged response to chronic stressors that is characterized by emotional exhaustion, depersonalization, and reduced personal achievement in the workplace. This three-dimensional model of burnout conceptualizes individual stress experience in the context of social relationship, and thus encompasses one's conception of both self and others (Maslach, 1998).

Emotional exhaustion is the specific stress dimension of burnout that is characterized by a state of physical overextension, fatigue, and depletion of one's emotional resources, particularly energy. In other words, stressful work environments are harmful. Exhaustion also has been described as a critical trigger of depersonalization and reduced personal accomplishment (Jackson & Maslach, 1982). Depersonalization (or Cynicism) refers to an excessive detached or inappropriate act towards work. This phenomenon manifests as negative, callous, and cynical behaviors, or interacting with co-workers or patients in a dehumanizing way. Reduced personal accomplishment (inefficacy) is the tendency to negatively evaluate one's work and feel

incompetent in terms of the ability to perform one's job. It also has been described as withdrawal behavior and inability to cope (Maslach et al., 2001).

From the healthcare perspective, the development of burnout symptoms occurs gradually as healthcare professionals enter a new job where their expectations of the job differ from the actual duties within the workplace (Moss et al., 2016). The three dimensions of burnout can be demonstrated by the experiences of healthcare professionals. In the early stages of burnout, health professionals face significant emotional experiences that are often associated with the caregiving relationship between them and the patient. While these experiences might be remarkably rewarding to some practitioners, because they see their efforts assist the patients' recovery process others may see these experiences as emotionally taxing. For instance, giving excessive time and effort to someone without beneficial outcomes, taking care of patients with severe cases or low chance of recovery, dealing with death, and dying patients, and having conflicts with coworkers and supervisors maybe seen as emotionally taxing. These emotional stresses sometimes overwhelm the professionals, leading to a state of exhaustion (Ayers et al., 2007).

At that point, healthcare professionals lose the ability to adapt to the work environment and show low or moderate interest and passion towards their job, colleagues, and even their patients. They protect themselves from any further disruptive feelings by keeping a psychological distance between themselves and their patients and maintaining a detached concern. This response often results in professionals treating patients in a detached or impersonal manner that is characterized by a cynical and depersonalized perception of patients. Treating patients with severe or demanding

conditions as a particular case or symptoms rather than as a human being who is suffering is a typical example of depersonalization. Accordingly, this demeaning view of patients is likely to be linked to a reduction in the quality of the care provided to them (Ayers et al., 2007).

Lastly, lack of preparation for the emotional reality of healthcare and its negative consequences among many healthcare professionals might lead them to interpret their emotional experiences as a failure to be professionals and being non-emotional, cool, and objective. As a result, healthcare professionals begin to question their own ability to work as healthcare professionals and feel a reduction in their personal accomplishments. Not surprisingly, this negative self-evaluation can impair the job performance of healthcare professionals or even lead them to leave the job.

Burnout is not only a response to excessive stress, but also a combination of each unique physical, mental, and emotional reaction to persistent levels of high stress. Eventually, three typical burnout symptoms develop: exhaustion, depersonalization, and reduced personal accomplishment (Ayers et al., 2007). Among susceptible healthcare professionals, RTs have been recognized as individuals who are more likely to experience burnout because of the nature of their stressful and demanding work (Knight, 2013 & Shelledy et al., 1992).

The respiratory care profession emerged in the 1940s and 1950s when job descriptions were very different from today. Over time, this occupation grew in parallel with the evolution of medicine, particularly critical care (Kacmarek et al., 2009). At present, Respiratory Therapists (RTs) are highly skilled healthcare professionals who evaluate, treat, and maintain patients' cardiopulmonary functions (Stoller, 2001). RTs

work in diverse clinical settings, including acute care hospitals, physician offices, home care, long-term acute care, durable medical equipment firms as well as educational institutions. However, more than 70% of RTs work in acute care hospitals and mainly in intensive care units and emergency departments. In other words, they provide services to the sickest patients in the hospital who are acutely injured, critically ill, or chronically ill (American Association for Respiratory Care [AARC], 2015).

Today, RTs play an essential role in providing life support to critically ill patients in all age groups, including neonates, pediatrics, and adults (Flynn, 2016). Caring for critically ill patients, especially within intensive care units in hospitals, can be stressful and demanding due to the high rate of patient morbidity and mortality, challenging daily work schedule, and regular encounters with traumatic and ethical issues (Mealer et al., 2007). Not surprisingly, levels of stress can further increase when health practitioners such as RTs encounter a lack of time and resources to properly care for patients (Brady & Keene, 2008). Under those circumstances, healthcare professionals working in intensive care units are highly susceptible to burnout, with at least 20% of ICU workers scoring high on burnout indicators (Chuang, Tseng, Lin, Lin, & Chen, 2016).

RTs are expected to be experts in terms of the knowledge of cardiopulmonary physiology, patient assessment skills, technical adeptness skills as well as critical thinking skills to deliver safe and efficient care (Stoller, 2001). In 2007, the AARC established the "2015 and Beyond" task force aimed to set changes that are required by the profession of respiratory care to meet the growing demands of the medical field and to place the RT as a vital member of the medical team in 2015 and beyond.

In the context of the respiratory care workforce, a 2014 AARC Respiratory Therapist Human Resource Study revealed that more than 172,921 RTs were employed in the United States (Strickland, 2015). Another survey conducted by Kacmarek and colleagues (2012) concluded that the number of available RT jobs throughout the following decade, in general, was expected to rise from 32.8 positions/hospital to 36.4 positions /hospital by 2020. Moreover, RTs' demand will continue to increase by 19% from 2012 to 2022. This growing demand requires an increasing supply of competent RTs. Hospitals need to recruit and train new professionals as well as retain existing ones (Bureau of Labor Statistics, 2015). Further impacting the numbers of RTs is their high turnover rate; according to national health care retention (2017), the average turnover rate for RTs increased from 11.6% in 2015 to 14.1% in 2016.

The shortage of RTs within the workforce further adds to the stress levels for individuals in the healthcare industry as they continually need to recruit and retain RTs. In fact, the demand for employment of RTs is expected to grow for several reasons, including the aging population and growth, paradigm shifts in health care delivery, development of technology as well as a shortage of physicians and other allied health professionals (National Health Care Retention, 2017). Therefore, addressing the RTs shortage is vital for the safety and care of acute and critically ill patients (Kacmarek et al., 2009).

Recognizing that Burnout syndrome is prevalent among many healthcare professionals the Critical Care Societies Collaborative (2016) sought to further raise awareness of this epidemic syndrome by developing a call to action. Wei, Rosen, and Greenspan (2016) pointed out three orders in addressing burnout, including recognition,

intervention, and prevention. To address this issue, the first step is the acknowledgment of its contributing factors. This crucial step can be implanted by measuring the prevalence of burnout in a specific population using a self-reporting tool and its associated factors such as lack of supervisory support.

A wide range of interventional strategies and programs have shown promise in addressing burnout in the healthcare arena. These approaches can be divided into two categories: person-directed and organization-directed. However, a combination of interventions that address the workplace culture, and address burnout on an individual level, is vital to achieving successful outcomes to prevent and treat burnout syndrome. On the individual level, it is vital to be able to cope with emotional stress, while on the organizational level, it is necessary to have proper human management (Maslach et al., 2001). Other strategies that have been documented in the literature that may help reduce the risk of burnout are setting limits, establishing a work-life balance, and employing time management skills and stress-reduction measures (American Association of Critical-Care Nurses [AACCN], 2005).

On a personal level or with respect to person-oriented strategies, the most common strategy used is active personal coping training (Lee et al., 2016). This strategy might include educational seminars, mindfulness training (Duarte & Pinto-Gouveia, 2016), and communication workshops (Le Blanc et al., 2007). Lazarus and Folkman (1984) stated that personal coping strategies play an essential role in preventing and reducing burnout by increasing individuals' knowledge of demands and resources. Personal coping strategies refer to the process of managing specific external

and internal demands that exceed the resources of the individual by using cognitive and behavioral efforts.

Coping strategies can be categorized into emotion-focused coping and problem-focused coping. Emotion-focused coping strategies, such as cognitive-behavioral oriented training and Mindfulness-Based Programs (MBPs), are used to regulate emotional reactions to stressful environments (Van Dierendonck D et al., 1998 & Duarte et al., 2016). Cognitive-behavior oriented training refers to psychotherapy that is used to regulate human behaviors by teaching individuals how to change wrong thinking and behavior (Beck, 2011). MBPs are primarily focused on individuals' awareness and acceptance of incoming thoughts (Felder et al., 2012). On the other hand, problem-focused coping approaches such as problem-solving and team-based training focus on solving problems that are caused by distressed person/environment relationships.

Research indicates that coping training workshops are effective in reducing burnout levels. Van Dierendonck et al. (1998) investigated the effect of cognitive-behavior oriented intervention programs on burnout levels in a sample of individuals working with mentally disabled persons. Within this study, the facilitators provided lectures and workshops about burnout knowledge, motivation processes in the workplace, learning and relaxing exercises, and development of an action plan to the current situation. To provide a broader effect of this program in reducing burnout levels, separate parallel workshops, which targeted supervisors only, were conducted. For supervisors, the facilitators trained them in communication skills and social skills.

A more recent study by Duarte et al. (2016) found that MBP intervention was effective in reducing burnout among a pool of oncology nurses. The investigators ran six

mindfulness sessions, which were divided into two categories: one focused on mindfulness of breath, body emotions, and thoughts, while the other focused on loving-kindness, interpersonal relationships, and mindfulness communications. At the end of this program, participants were asked to take part in a closing reflection.

In terms of problem-focused coping strategies, Le Blanc et al. (2007) conducted a study that involved a program intervention entitled "Take Care!" This study aimed to evaluate the effectiveness of problem-focused approaches that included team-based burnout intervention and problem-solving skills to reduce burnout levels. This training program consisted of six sessions, three hours each. The first session formed a general introduction to the program. It provided some education about the working mechanism of job stress. The remaining sessions provided communication and feedback skills, building social support networks, and balancing job-related investments and outcomes. Finally, this program ended with an interactive discussion of real-life experience. The authors concluded that the "Take Care!" program was effective in reducing burnout levels in the intervention group.

Additionally, building resilience is an excellent approach that requires a variety of interventions based on individual preferences. A body of research demonstrates different foundations of resilience, such as adequate self-care, ensuring adequate rest, spiritual practices, exercise, meditation, and hobbies outside of the work environment (Mealer et al., 2012; Chlan, 2013 & Hinderer et al., 2014).

On the organizational level, healthcare managers or supervisors must establish appropriate programs to alleviate burnout among their employees by enacting interventions focused on enhancing the work environment. Although person-oriented

strategies showed a positive effect on decreasing burnout levels among many healthcare practitioners (Van Dierendonck et al., 1998, Le Blanc et al., 2007 & Lee et al., 2016), current literature has argued that newer strategies that target a healthy workplace and social changes are promising (Maslach, 2017). The American Association of Critical Care Nurses (2005) reported six essential standards that are required to create and maintain a healthy work environment:

- Good communication skills.
- True collaborations.
- Effective decision-making skills.
- Appropriate staffing.
- Meaningful recognition of the work.
- Authentic leadership skills.

It is evident that utilizing team debriefing and feedback, structured communication, and collaboration with medical teams is vital in addressing burnout syndrome. Therefore, the presented standards are central in developing programs to mitigate burnout and provide a healthy work environment (Moss et al., 2016).

Maslach (2017) has renewed debate on what leaders can do about the burnout problem. She proposed three critical ideas that can be used to resolve burnout syndrome. First, prevention is better than treatment. Taking steps to minimize risk factors of burnout is a more rationale and wise approach to combat this job-related hazard. It is crucial to reduce the likelihood that this epidemic syndrome will happen. However, this argument does not contradict the idea of alleviating burnout for individuals who are experiencing it.

Promoting engagement is the best strategy to prevent burnout. Employees who are engaged with their job can overcome the challenges they encounter at work. In other words, the high level of engagement makes individuals more likely to recover from stress. Job engagement is the positive opposite of the three dimensions of burnout. Maslach and Leiter (1997) defined work engagement as employees' relationship with their work that is characterized by an energetic state (the opposite of exhaustion), active involvement (the opposite of detachment or depersonalization), and a sense of personal efficacy (the opposite of decreased personal accomplishment). Another conceptualization of engagement was defined by Kahn (1990) as a sense of attaching of employees to their work roles in an organization. In this concept, individuals bring in themselves physically, mentally, cognitively as well as emotionally at work.

Thus, managers and supervisors should provide a supportive work environment by enhancing the positive development of the three core qualities of engagement, including energy, involvement, and efficacy. According to the Job Demands-Resources (JD-R) model by Demerouti et al., (2001), policies and practices that aim at building an engaged workforce should focus on increasing the available resources for employees. Managers can implement these practices by involving employees in making decisions involving their work, providing them with control for their work pace, optimizing social support, and recognizing their achievements.

An example of a respiratory care director who implemented the concept of engagement to prevent burnout is John Campbel, pulmonary services director at St. Dominic-Jackson Memorial Hospital in Jackson, MS. In an interview by an AARC representative (2018), he stated his departmental experience to prevent burnout among

RTs. Campbel builds up his employees' engagement to their work through involving staff in decision making about designing their workflow, encouraging continuing education in leadership and management, recognizing hardworking RTs through offering promotion opportunities.

The second idea of burnout solutions is that organization-oriented interventions that address burnout syndrome can be more productive than individual person-oriented interventions. To clarify, improvements that are made on job conditions, such as the work environment, can have a significant impact that affects a large group of employees. Maslach (2017) suggested that customizing an intervention that takes into consideration probable contributing factors, rather than relying on a standard, one-size-fits-all approach, would be more effective. Consequently, employees would have a better chance of preventing burnout and building engagement in the workplace.

The third essential aspect that might not be covered in person-oriented intervention is the building of social networks. In fact, these social networks have many ongoing social interactions and reciprocal exchanges (Maslach, 2017). Among many social exchanges in the workplace, supervisory support has been recognized as a buffer for burnout effects (Kickul & Posig, 2001).

In the healthcare arena, it is evident that supervisory support is one of the most significant variables investigated in burnout research (Aronsson et al., 2017). This evidence may be due to the constant need for health care practitioners to feel validated both mentally and emotionally and to feel valued by his or her supervisor and organization. Eisenberger et al. (2002) described supervisory support level as the perception of employees about the extent to which their supervisor appreciates and

cares about their well-being. Supervisory support can be utilized as a resource investment and protection mechanism against resource loss. This additional social resource can buffer the energetic depletion that might happen due to the loss of regulatory resources (Hobfoll, 1989).

In the context of support, there are two kinds of support within an organization, informal and formal. Informal support includes coworker support and supervisor support, whereas formal support includes policies. Informal supports play an important role in determining employee outcomes compared to formal supports (Behson, 2005). Kossek and colleagues (2011) confirmed that informal workplace support is essential in the rising trend of workplace stress. Moreover, they asserted that informal workplace support has a positive impact on work-life balance. Although RTs experience a high level of stress at work, adequate supervisor support can mitigate the negative impact of this stress by emotionally supporting staff (Shelledy et al., 1992). Therefore, building a close working collegial relationship that is characterized by practical and psychological support from the close supervisor supervisory is crucial in the workplace.

Clinical supervision is one of the interventional strategies that has been suggested in the literature through which the symptoms of burnout can be alleviated. It is "a formal process of professional support and learning, which enables individual practitioners to develop knowledge and competence, assume responsibility for their own practice and enhance consumer protection and safety of care in complex clinical situations" (Department of Health, 1993, p. 15). Clinical supervision provides health care practitioners with the opportunity to reflect on practice in individual cases and identifies continuing professional development needs (Care Quality Commission [CQC], 2013). It

is also effective in increasing employees' job satisfaction, effectiveness, and commitment to organizational goals and values. These benefits also improved the quality of health care provided to patients, as well as a reduction in staff turnover (CQC, 2013). Clinical supervision is not the same as managerial supervision. The primary purpose of managerial supervision is reviewing subordinates' performance, whereas the primary purpose of clinical supervision is to promote a form of reflective practice (CQC, 2013).

Proctor (1986) proposed the three-function model of clinical supervision, including formative, normative, and restorative supervision. The normative function of supervision refers to administrative and managerial functions in which supervisors have the responsibility for the adherence of supervisees to the professional and ethical standards of the organization. The formative function of supervision aims to develop skills and knowledge of supervisees. Restorative supervision emphasizes psychological support such as listening, supporting, and challenging supervisees to improve their capacity to deal with difficult and stressful situations in the workplace.

Several studies have been conducted to evaluate the impact of clinical supervision on burnout levels. Wallbank and Robertson (2008) conducted a randomized control study that was designed to evaluate the effectiveness of restorative supervision on burnout levels. The authors concluded that restorative supervision significantly helped staff to process their workplace experiences, reducing their scores for burnout, compassion fatigue, and subjective stress to non-clinical levels. This study also reported a positive workplace experience for staff that allowed them to improve their own capacity to reflect and cope.

Another study by Edwards et al. (2006) investigated the degree to which clinical supervision might influence burnout levels in a group of community mental health nurses. The investigators reported a negative relationship between clinical supervision experience and levels of burnout. Nurses who received adequate clinical supervision reported lower levels of burnout. Therefore, health care organizations can utilize this effective strategy by providing adequate supervision to prevent and reduce burnout syndrome in the workplace.

A more recent study by Wallbank and Hatton (2011) concluded that a restorative approach of supervision is effective in reducing stress and burnout among health visitors and school nurses. This approach enables health care practitioners to restore their capacity toward the work and eventually reduce the risk of developing stress and burnout. The authors also mentioned that managerial supervision alone does not allow staff to process their anxiety about complicated and stressful work.

Summary

Burnout is characterized by a state of emotional exhaustion, depersonalization, and decreased personal accomplishment. The development of this syndrome in health care professionals occurs gradually with time as they are continuously exposed to highly stressful situations without active coping strategies to deal with stress. Based on the literature, burnout is a serious consideration for healthcare leaders due to its negative impact on the health and well-being of healthcare practitioners and eventually on patient care.

RTs are health professionals who are highly susceptible to burnout due to the nature of their stressful and demanding work. Also, the national shortage of RTs workforce further increases the stress on practitioners in this profession.

Problem Statement

Burnout is a serious occupational hazard for healthcare professionals who are working under high levels of work-related stress. It is described as a state of exhaustion resulting from the exposure to persistently high levels of stress (Maslach & Leiter, 2016). High expectations at work, extended working hours, as well as a relative lack of support in the workplace, are significant contributors to feeling stressed, resulting in burnout syndrome (Moss et al., 2016). Moreover, burnout not only influences the mental health of health care practitioners but also impairs their performance. It is evident that burnout is associated with many adverse consequences, including, absenteeism, high turnover rate, decreased healthcare professionals' satisfaction, lower productivity and effectiveness at work, and eventually reduced the quality of care for the patients (Shanafelt et al., 2010).

A high prevalence of burnout has been detected among diverse health care professionals which underscores this phenomenon as a significant and universal challenge that needs to be addressed (Kumar, 2016; van Mol et al., 2015 & Flynn et al., 2009). The respiratory therapist is a member of the health care team who evaluates, treats, and maintains the patient's cardiopulmonary functions (Stoller, 2001). RTs are highly vulnerable to the adverse effects of job-related stress due to the nature of the

respiratory care profession that mandates them to deal with diverse patient's conditions (Shelledy et al., 1992).

Additionally, high demands for respiratory care services in the presence of a shortage of healthcare workforce has added additional stress to this problem (Kacmarek, Barnes, & Durbin, 2012). Without effective interventions to deal with stressors, burnout syndrome might develop within this group of health care professionals. Accordingly, RTs need physical, psychological, as well as social resources to deal with a highly stressful job. Among these resources, supervisory support has been recognized as a valuable resource that buffers the effect of burnout and stimulates personal growth within different health care specialties (Hobfoll, 2001).

Significance of the Study

Although much empirical research has investigated the prevalence of burnout syndrome among physicians and other allied health professionals and its associations with the perception of supervisory support (Aronsson et al., 2017), the exact prevalence of RTs' burnout has not been documented in the literature. Even though nurses and RTs have similar job stressors, there is insufficient research on burnout among these groups of health care professionals.

Therefore, this study is significant in that it will contribute to the limited literature by measuring the prevalence of burnout among RTs and its relation to the perception of supervisory support from a broader perspective. More importantly, previous information about this topic did not address burnout among RTs in different regions. Hence, the findings of this study will provide respiratory therapy leaders with valuable knowledge

and information about improving the professional life of RTs. More precisely, it will provide financially effective strategies that can be utilized to prevent and mitigate the effects of job stress on RTs.

Purpose of the Study

The purpose of this research study was:

- To Assess the prevalence of burnout syndrome that is characterized by emotional exhaustion, depersonalization, and reduced personal achievement among respiratory therapists.
- To Measure the extent to which respiratory therapists are supported by their close supervisor.
- To Measure the association between the perceived supervisory support and its relations to the three dimensions of burnout syndrome (Emotional Exhaustion, Depersonalization, and decreased Personal Achievement) within the respiratory therapy profession.

Research Questions and Hypotheses

The following research questions were used to drive this study:

RQ1. What is the prevalence of burnout as defined by the MBI-HSS (MP) score (high EE, high DP, low PA) in a national sample of RTs?

RQ2. Are there significant differences between a national sample of RTs and medicine norm in terms of the three MBI-HSS (MP) subscales (EE, DP, PA) scores?

Ha2. There are significant differences in MBI-HSS (MP) subscales (EE, DP, PA) scores between a national sample of RTs and medicine norm.

RQ3. What is the perception of supervisory support as measured by the Survey of Perceived Supervisor Support (SPSS) in a national sample of RTs?

RQ4. Are there relationships between RTs' perception of supervisory support as measured by the SPSS and their overall levels of burnout as defined by the MBI-HSS (MP) score?

Ha4. There are significant relationships between the perceived supervisory support as measured by the SPSS and levels of burnout as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ5. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of emotional exhaustion as defined by the MBI-HSS (MP) score?

Ha5. There are significant relationships between perceived supervisory support as measured by SPSS and levels of emotional exhaustion as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ6. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their level of depersonalization as defined by the MBI-HSS (MP) score?

Ha6. There are significant relationships between perceived supervisory support as measured by SPSS and levels of depersonalization as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ7. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of personal accomplishment as defined by the MBI-HSS (MP) score?

Ha7. There are significant relationships between perceived supervisory support as measured by SPSS and levels of personal accomplishment as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ8: Are there differences in burnout subscales scores of the MBI-HSS (EE, DP, PA) in terms of the working settings of RTs?

Ha8: There are significant differences in burnout subscales (EE, DP, PA) scores of the MBI-HSS in terms of the working settings of RTs.

Chapter II: Review of the Literature

The purpose of this review was to examine what is known and unknown about the prevalence and associated factors of burnout. It also examines the contribution of supervisory support in alleviating the symptoms associated with burnout in RTs and other health care professionals. Although nurses and RTs have similar jobs and stressors, much more is known about nurses' burnout than for RTs' burnout. Critical care nurses, who are in close contact with patients, have been extensively researched; research on RTs, however, is limited. Hence, research on burnout in the respiratory care profession is needed. The nature of the respiratory care profession demands more extensive research on burnout.

The search keywords used to gather studies for this review included the following: Burnout, respiratory therapist, nursing, medicine, critical care professionals, respiratory therapy, respiratory care, supervisory support, and leadership. These search terms were utilized together to find articles in different databases such as Cochrane Reviews, the Cumulative Index to Nursing and Allied Health Literature, Science Direct, google scholar PUBMED and MEDLINE.

The following research questions were used to drive this study:

RQ1. What is the prevalence of burnout as defined by the MBI-HSS (MP) score (high EE, high DP, low PA) in a national sample of RTs?

RQ2. Are there significant differences between a national sample of RTs and medicine norm in terms of the three MBI-HSS (MP) subscales (EE, DP, PA) scores?

Ha2. There are significant differences in MBI-HSS (MP) subscales (EE, DP, PA) scores between a national sample of RTs and medicine norm.

RQ3. What is the perception of supervisory support as measured by the Survey of Perceived Supervisor Support (SPSS) in a national sample of RTs?

RQ4. Are there relationships between RTs' perception of supervisory support as measured by the SPSS and their overall levels of burnout as defined by the MBI-HSS (MP) score?

Ha4. There are significant relationships between the perceived supervisory support as measured by the SPSS and levels of burnout as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ5. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of emotional exhaustion as defined by the MBI-HSS (MP) score?

Ha5. There are significant relationships between perceived supervisory support as measured by SPSS and levels of emotional exhaustion as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ6. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their level of depersonalization as defined by the MBI-HSS (MP) score?

Ha6. There are significant relationships between perceived supervisory support as measured by SPSS and levels of depersonalization as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ7. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of personal accomplishment as defined by the MBI-HSS (MP) score?

Ha7. There are significant relationships between perceived supervisory support as measured by SPSS and levels of personal accomplishment as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ8: Are there differences in burnout subscales scores of the MBI-HSS (EE, DP, PA) in terms of the working settings of RTs?

Ha8: There are significant differences in burnout subscales (EE, DP, PA) scores of the MBI-HSS in terms of the working settings of RTs.

Although RTs provide patient care in various clinical settings, there is a paucity of data on the prevalence of burnout among this group of healthcare professionals. The literature review shows that few studies have been conducted on RTs as a unit of analysis alone. However, a body of research combined RTs with other healthcare professionals at one research (Johnson-Coyle et al., 2016; Guntupalli et al., 2014 & Jacobs, Nawaz, Hood, & Bae, 2012). This study reviewed the empirical evidence to provide a solid background for understanding current knowledge on burnout syndrome among RTs and illuminates the significance of investigating a broader national study that includes RTs from different regions in the United States.

Prevalence of Burnout in Respiratory Care

Research of burnout in the respiratory care profession is limited. Despite the fact that the RT plays an integral part in taking care of critically ill patients that might be associated with high demands (Shelledy et al., 1992), there is a lack of data on the prevalence of burnout among RTs. The exact significance of RTs' burnout has not been documented. Shelledy and colleagues (1992) conducted a study to determine job

satisfaction, job turnover, and burnout among respiratory therapists. This outdated study supports the importance of conducting more recent studies to address this issue. The authors asserted that job stress is the most influential factor that contributes to burnout in the respiratory care profession. Also, the researchers found a significant relationship between job satisfaction and burnout: as overall job satisfaction increases the level of burnout decreases substantially ($r = -.59, p < 0.001$). In terms of the prediction of job satisfaction, 62% of the variance is accounted for satisfaction with supervisors. As a result, the authors recommended that educating respiratory care managers about burnout may increase the quality of patient care, decrease turnover, and absenteeism in the respiratory care profession.

In the context of burnout in respiratory care, a dissertation study by Knight (2013) aimed to determine the association between burnout, personal factors, and professional factors among RTs working in Georgia. In a sample of 124 licensed RTs in Georgia, the investigator concluded that no overall association between burnout and personal factors. However, a statistically significant association between burnout and organizational factors was detected, particularly emotional and social support in the workplace. Accordingly, these findings offer insights on how burnout develops among RTs.

In the light of burnout in interdisciplinary health professionals, Guntupalli et al. (2014) collected data about professionals' burnout among nurses and RTs working in intensive care units. A total sample of 213 participants was surveyed using the MBI-HSS, 151 nurses, and 62 respiratory therapists. The findings of this research indicated moderate to high levels of emotional exhaustion (54%) and depersonalization (40%).

Meanwhile, approximately 40% of subjects scored low on the personal accomplishment scale. Therefore, increased demand for healthcare practitioners attributable to staff shortages, limited resources, and high demands of health care might lead to burnout of these providers and attrition.

A more recent study was conducted in a large quaternary Cardiovascular Intensive Care Unit (CVICU) to report and compare the prevalence and contributing factors to moral distress and burnout among nurses, RTs, medical doctors, and other allied health professionals (Johnson-Coyle et al., 2016). This survey of 169 health care providers indicated variations in the level of burnout: high in 64.0%, moderate in 22.7%, and low in 13.3% of respondents. The highest level of burnout has been reported by non-physician professionals ($p < 0.001$). Additionally, the average job satisfaction survey results were highest for physicians compared to other professionals. Indeed, there was a negative association between job satisfaction and burnout. The results of this study created an urgent call to action to develop unit-specific strategies focusing on the organization and on a personal level to help in alleviating burnout. Therefore, further studies are needed to address this phenomenon from different perspectives across broader populations.

Accordingly, there is an urge to investigate the prevalence of burnout among RTs and its relation to the level of supervisory support on a broader scope of population. Also, the studies by both Shelledy et al. (1992) and Knight (2013) support the notion of social and supervisory support as a significant predictor of burnout among respiratory therapists.

Prevalence of Burnout in Physicians

Burnout in physicians is prevalent across many countries. Medical doctors are susceptible to burnout because of their exposure to high levels of stress in their career (Kumar, 2016). Estimation of burnout among physicians is variable between specialties, sectors, and even countries. Presence of this variation among physicians is associated with related stressors arising from the work environment. According to European General Practice Research Network Burnout Study Group (2008), 43% of physicians scored high for Emotional Exhaustion burnout, 35% for Depersonalization and 32% for low Personal Accomplishment, while 12% scoring high burnout in all three dimensions. Burnout appears to be prevalent across Europe.

In Canada, on the other hand, Thommasen et al. (2001) investigated the prevalence of burnout syndrome among family physicians working in a rural British Columbia area. Findings indicated that 80% of physicians reported moderate to severe Emotional Exhaustion, 61% reported moderate to severe Depersonalization, and 44% had moderate to low feelings of Personal Accomplishment.

A more recent study of US physicians by Shanafelt et al. (2015) concluded that professional burnout among US physicians worsened from 2011 to 2014. In a sample of 6,880 participants, 54.4% (n=3680) of the physicians reported as a minimum one symptom of burnout in 2014 compared with 45.5% (n=3310) in 2011 ($P < .001$). Also, considerable differences in the prevalence of burnout were observed by specialty. It can be concluded that burnout syndrome among medical doctors is a growing burden that should be addressed adequately.

Prevalence of Burnout in Nursing

Burnout syndrome is alarmingly common in nursing and has also been extensively explored. A national study regarding burnout was among nephrology nurses (n=422). The aim of this study was to investigate the effect of workload, non-supportive work environment, and care processes on burnout (Flynn et al., 2009). The authors reported an unacceptably high prevalence of burnout among a national sample of hemodialysis nurses. One in three hemodialysis nurses in the sample reported a high level of burnout. Also, other relationships to burnout were reported, including nurses' workload, patient-nurse ratios, practice environments, and incomplete works were all significantly associated with burnout. Furthermore, nurses who reported symptoms of burnout were three times more likely to leave their jobs. Accordingly, nurse administrators and supervisors should carefully redesign the working conditions in order to alleviate the effects of burnout on nurses and the quality of care provided to the patients.

In terms of burnout among emergency departments, Hooper et al. (2010) reported high levels of burnout among nurses working in this high work pressure and stressful environment (n=379). The researchers reported as high as 82% of emergency nurses had moderate to high levels of burnout. Moreover, they asserted that the key predictor of burnout was manager support. The authors also found no significant differences in burnout levels between emergency nurses and those working in other specialty areas, including oncology, nephrology, and intensive care units.

Hunsaker and colleagues (2015), on the other hand, reported inconsistent results with Hooper et al. (2010). The authors revealed a low to average level of burnout

among emergency nurses working in the US (n=278). Interestingly, the low level of supervisor support was a significant predictor of the higher level of burnout among the study group of emergency department nurses. This research supports the importance of management support, particularly from supervisors. Hence, nurse leaders must become aware of nurses who are at higher risk for burnout and have a positive and supportive relationship with them in order to mitigate this problem. Nurse supervisors play an essential role in the successful development of healthy, positive, professional-practice work environments. More importantly, building a supportive work environment by providing adequate manager support is crucial to retaining knowledgeable, caring, experienced nurses.

Meta-analytic evidence by Gómez-Urquiza et al. (2017) aimed at determining the prevalence of burnout among ER nurses reveals a high level of burnout among study groups. About 30% of the sample reported a high level of burnout with at least 1 of the 3 MBI subscales. A total of 13 studies were critically selected in this analysis from various countries around the world. The prevalence of high Emotional Exhaustion (EE) was estimated between 20% and 44%, high Depersonalization (DP), between 23% and 51%, and low Personal Accomplishment (PA) between 15% and 44%. Moreover, this analysis indicates that providing a suitable work environment along with a formation of professional groups where ER nurses can express their emotions and feelings are essential in reducing the occurrence of burnout.

In the context of burnout among nurses, Van Mol, Kompanje, Benoit, Bakker, and Nijkamp (2015) investigated the factors associated with burnout syndrome in nurses working in various clinical departments. A total of 1,482 nurses reported their burnout

level. The results of this study indicated that more than 65.1% of the nurses believed that their job is stressful. In terms of burnout measurements, the mean scores computed for each of the three dimensions of burnout [Emotional Exhaustion (EE), Depersonalization (DP), Personal Accomplishment (PA)] reported that 21.5 % of the participants were in the high EE range, 30.7% scored high in the PA section and 33% scored high in the DP. Also, the investigators pointed out that high burnout scores are more likely to be associated with certain variables such as fatigue, age, as well as job-related stress.

Prevalence of Burnout in Critical Care Healthcare Professionals

While burnout syndrome has been reported among many types of healthcare professionals, it is most common among professionals working in intensive care units. According to a survey by Medscape (2015), approximately 53% of critical care physicians reported a high level of burnout. Additionally, more than 25 % of ICU nurses experienced severe symptoms of burnout syndrome (Moss et al., 2016). Research about burnout in other critical care healthcare professionals, however, has been limited. In one study by Guntupalli and colleagues (2014), RTs working in intensive care units manifested a high level of burnout symptoms. In terms of risk factors that are associated with burnout syndrome among health care professionals, Moss et al. (2016) pointed out four major categories of factors, which are personal, occupational, and organizational factors, and end of life issues.

The investigation of burnout has been reported in various healthcare professionals across a wide range of practice settings in the US. Predominantly, it is common among healthcare professionals working in the frontline line of care, such as

intensive care units. Shanafelt and colleagues (2012) demonstrated that the prevalence of burnout syndrome among US physicians ranged from 30% to 65% across different specialties. A recent survey by Medscape (2015) concluded that the highest burnout rates found in critical care and emergency physicians were 53% and 52%, respectively.

A more recent national study by Shenoi et al. (2018) investigated burnout among pediatric critical care physicians in the US. In a sample of 253 pediatric critical care physicians, nearly 50% of the participants reported high in at least one of the three MBI dimensions as follows 34% for EE, followed by 21% for low PA, and 20% for DP (20%). Also, severe burnout was reported by 21% of participating physicians. Surprisingly, the majority of participants (69%) have been pediatric critical care providers for more than ten years. However, they still experienced burnout.

Critical care settings are stressful, and demanding work environment that negatively impact the health and wellbeing of professionals causing burnout. In critical care settings, approximately 25–33% of nurses reported high levels of burnout syndrome. Meanwhile, up to 86% of them experienced at least one of the three classic symptoms of burnout (Moss et al., 2016). Moreover, intensive care unit nurses more commonly experienced burnout symptoms in comparison to other departments of nursing (Chian, 2013). Mealer et al. (2012) pointed out that the highest rate of burnout domains in critical care nurses is emotional exhaustion (73%), followed by a lack of personal accomplishment (60%) and depersonalization (48%). On the other hand, critical care physicians or intensivists experience a shortage of staff. This shortage created a high demand for overnight ICU coverage, leading to a high rate of burnout.

Burnout is also common in intensivists, particularly in pediatric critical care, as high as 71% or more than twice the rate in general pediatricians (Medscape, 2015).

Poncet et al. (2007) asserted that there are four major categories in terms of risk factors associated with burnout. First, personal factors include engaging in ineffective coping strategies, sleep deficiency, and an imbalance between work and life. Second, organizational factors associated with burnout include (a) high workload; (b) lack of control over the work context; (c) inadequate rewards; and (d) overall bad work culture. Third, Poncet et al. noted the quality of working relationships, such as conflicts and bad communication with co-workers. Finally, end-of-life issues are commonly reported risk factors in ICU professionals, including caring for a dying patient and sharing decisions to withdraw life-sustaining treatments.

Supervisory Support and Burnout

A safe work environment in the health care field is characterized by good professional relationships, support from management, adequate resources, a balanced work schedule, and opportunities for professional growth (Copanitsanou et al., 2017). However, RTs often report their environment as stressful and complex, due to the experience of staff shortage and limited resources (Metcalf et al., 2015). This condition, in turn, might lead to low job satisfaction, which is associated with high levels of burnout (Shelledy et al., 1992).

In the nursing profession, Kangas et al. (1999) pointed out that perceiving the environment as supportive was a predictor of nurses' job satisfaction. This study is consistent with Shelledy et al. (1992) in terms of the prediction of job satisfaction; 62% of the variance is accounted for satisfaction with supervisors. An interesting finding is

that the "nurse-to-patient ratio," which is considered an essential factor in the nursing career, can improve patient outcomes only in hospitals with a good work environment. Thus, the work environment is considered as a determinant factor that works side by side with staffing and nurses' education to mitigate the problem of high demand in health care services and the same time improve quality of care.

In the context of supervisory support, Kickul and Posig (2001) evaluated the relationship between supervisory support and burnout. They believe that supervisors play a crucial role in buffering the negative effect of role conflict and time pressure by emotionally supporting staff. This emotional support can reduce the emotional exhaustion of professionals. Another study by Kalliath and Beck (2001) examined the relationship between supervisory support, burnout, and turnover among nurses. In this study, low supervisory support is associated with a high level of exhaustion, depersonalization, and intention to leave the job.

A longitudinal study by Fukui and colleagues (2019) of 195 clinical care providers at two community mental health centers showed a positive effect of supervisory support on decreased turnover intention through decreasing of emotional exhaustion. Over 12 months, increased in supervisor support was related to a decrease in turnover intention through decreasing emotional exhaustion. These findings imply that increasing supervisor support plays an essential role in alleviating emotional exhaustion to reduce turnover intention that can be utilized as an effective intervention in routine practices.

A recent study by the Mayo Clinic evaluated the impact of organizational leadership on physician satisfaction and burnout among 2,813 physicians who reported their burnout level as well as the leadership qualities of their immediate supervisors.

The results of this research indicated a strong correlation between leadership quality scores and burnout scores ($P > .001$). This study contributes to the literature by providing excellent organizational resources that foster health professionals' well-being (Shanafelt et al., 2015).

RTs, like other health care professionals, are especially vulnerable to the negative impact of stress that is characterized by burnout. Their stressfully demanding work may add an additional stressor on RTs, leading to a decrease in the professionals' well-being. In order to achieve the goal of providing respiratory care services, RTs need physical, psychological, as well as social resources that are essential for dealing with highly stressful jobs and stimulating personal growth. Among these resources, supervisory support has been recognized as a valuable resource that buffers the effect of burnout and stimulates personal growth within different health care specialties, including RT.

In summary, common challenges within diverse health care fields, in conjunction with the noted RTs specific stressors, make RTs more susceptible to the development of burnout. Therefore, the need for filling the gap in the literature by measuring the prevalence of burnout within RTs and its relation to the perceived supervisory support becomes increasingly essential.

Gaps in the Literature

Analysis of the literature about burnout among RTs reveals several gaps. The lack of research in this profession provides several opportunities for further investigation. Even though RTs face unique stresses in the workplace, there is a paucity

of research that addresses the burnout syndrome among these professionals and the associated factors.

One gap in the literature related to the importance of supervisory support as an intervention to alleviate burnout, the literature on burnout, and supervisory support in respiratory care is not substantial. Shelledy et al. (1992) conducted a study to determine job satisfaction, job turnover, and burnout among respiratory therapists. In terms of the prediction of job satisfaction, 62% of the variance is accounted for satisfaction with supervisors. However, this study did not propose the perception of supervisory support from many aspects, including value, help, and care about employees' well-being.

Another gap in the literature relates to the generalizability of research on burnout in respiratory care. The conclusion from this study is more representative of the RT population in the US. To my knowledge, no study measures the prevalence of burnout among RTs and its association to levels of supervisory support nationwide. Currently, very few studies that investigated burnout syndrome among RTs have been researched. Accordingly, the absence of nationwide information is an excellent opportunity for further research. The result of this national study provides information and knowledge about the relationship between perceived supervisor support and burnout that are valuable for RTs by generating a dialogue on improving the professional life of RTs. The study also acts as a useful resource for respiratory care organizations such as the American Association for Respiratory Care (AARC), an association that is interested in supporting and advocating for respiratory care professionals in a variety of ways.

Additionally, lack of substantial studies that address burnout among RTs presents the opportunity for the researcher to investigate burnout level among RTs and the relationship between the three dimensions of burnout, emotional exhaustion, depersonalization, and decreased personal accomplishment, and perception of supervisory support. Emotional exhaustion is a key trigger of burnout whereby the individual experiences increased feelings that they are no longer able to provide for themselves at their job. Emotional exhaustion is also central to burnout and the most frequent measure of occupational burnout (Maslach, 2003). However, it is not only the whole concept of burnout experience.

Lastly, this study contributes to the literature by providing suggested strategies to respiratory care directors to prevent and mitigate the effect of job stress on RTs. According to the job-demand resources model, the RT occupation has its own specific risk factors of burnout that are characterized by high demand work conditions such as increased workloads and sensitive time pressure. Thus, RTs need sustained physical, mental, and psychological efforts to face those demands. In other words, they need enough resources that help them to buffer the impact of high demands on job strain, including burnout.

Therefore, respiratory care directors need financially creative resources. Strategies aimed at decreasing RTs' workloads by increasing physical resources such as workforces are not applicable in the near future and are often associated with increased health care costs. Hence, finding financially creative solutions is relevant. Providing a supportive environment that is characterized by value, help, and care about

health care professionals' wellbeing by close managerial relationships is one of the cost-effective solutions (Copanitsanou et al., 2017).

Theoretical Framework

The process of developing burnout is clearly outlined in the job-demand resources model and the conservation of resources theory. Both theories complement each other to produce the most robust theoretical model in explaining this phenomenon. Additionally, Organization Support theory explained the nature of supervisory support that has a positive effect on employees' commitment and performance within an organization. It also clarifies the buffering effect of supervisory support on burnout.

Two theories can be used to explain burnout, including the Conservation of Resources (COR) theory (Hobfoll, 1989) and the Job Demands-Resources (JD-R) model (Demerouti et al., 2001; Bakker & Demerouti, & Euwema, 2005). Both theories emphasize the balance between job resources, job demands, and burnout. According to the JD-R model (Demerouti et al., 2001), every job may have its own specific risk factors concerning job stress or burnout, which are subdivided into job demands and job resources (Figure1).

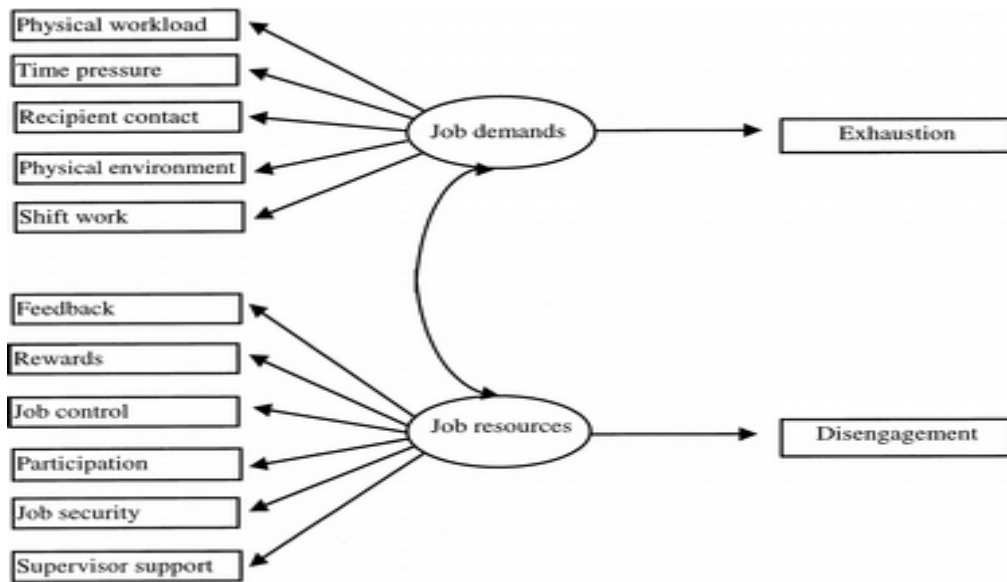


Figure 1: The Job-Demand Resources Model of Burnout.

Job demands indicate physical, social, or organizational characteristics of the job that need constant physical or mental energy such as workload, time pressures, and role conflicts. Therefore, job demands are associated with specific physiological and psychological costs (Demerouti et al., 2001). Illustrating this point, environmental stressors that are associated with job demands such as a high workload stimulate the individual's performance protection strategy. This performance creates stress and activation of the sympathetic nervous system resulting in physiological and psychological costs that gradually drain the individual's energy.

On the other hand, job resources indicate physical, social, or organizational characteristics of the job that are essential to achieving work goals, decreasing job demands and their psychological and physiological costs, or promoting personal growth and development (Demerouti et al., 2001). Job resources represent an individual's values such as employment, job security, job enhancement opportunities, autonomy, participation in decision-making, and supervisor support (Akhtar & Lee, 2010). In the

presence of absence or lack of resources, individuals cannot cope with the negative impact of environmental demands, and they cannot achieve their goals. Consequently, a state of low motivation and withdrawal behavior from the job might develop as self-protection mechanisms to prevent any additional frustration due to not achieving work-related goals.

To increase the understanding of burnout experience, Bakker et al. (2005) proposed the refined JD-R model. The JD-R model (Demerouti et al., 2001) asserted that job demands induce a stress process by increase the energy depletion, whereas a lack of job resources induce a withdrawal process by reducing employee motivation and learning. On the other hand, Bakker et al. (2005) showed that the main effects in the JD-R model by Demerouti (2001), high job demands in the presence of low resources are predictive of burnout syndrome. To clarify, burnout can be explained by the interactions between job demands and job resources, as high levels of burnout were reported by employees when high job demands combined with low job resources.

Therefore, job resources have potential buffering effects on stress reactions, including burnout. One promising remedy to mitigate job demands in burnout syndrome is increasing support from direct supervisors. Support from close supervisor reassures employees of the value of their contribution to the organization and enhances their self-efficacy levels which eventually leads to a reduction in stress, including burnout (Golembiewski, 2000).

There is a similarity between COR theory and the JD-R model: if job demands are high with limited resources, the potential of burnout is high as well. The COR theory states that individuals are basically motivated to obtain, retain, and protect their valued

resources to survive, which is fundamental to human behavioral genetics. Following this basis, COR theory postulates that stress develops when those resources are threatened, lost, or individuals failed to gain resources after resource investments. Burnout develops because of persistent threats to available resources. To state this more clearly, when people perceive that their valued resources are threatened, they strive to maintain those resources. Therefore, the loss of resources or even the impending loss of resources may worsen burnout more (Hobfoll, 1989).

Additionally, among different types of resources, energy resources are a major type of resources that are associated with burnout phenomenon (Demerouti et al., 2001). Burnout arises as a result of depletion of energy resources, due to the erosion of emotional, physical, and cognitive energy, in any combination thereof (Demerouti et al., 2001).

Job resources are essential, and they are crucial in achieving other valued resources. The COR model puts more emphasis on the significance of job resources (Maslach et al., 2001), whereas the JD-R model proposes that the development of burnout depends on two independent processes. First, high demands for work leads to constant overloading that ends with exhaustion. Second, an imbalance between resources and demands further leads to withdrawal behaviors followed by disengagement (depersonalization) from work and the work environment.

The COR model further proposed that job resources act as a protective barrier for burnout. Nevertheless, the JD-R model pointed out that job demands are most predictive of feelings of exhaustion and that lacking resources is most predictive of disengagement from work. However, in the presence of high demands of work and at

the same time limited resources, both exhaustion and disengagement can be developed.

Consequently, the perception of the supervisor support scale is derived from the Organizational Support Theory (OST). This theory suggests that employees are generally concerned about the extent to which the organization values their contributions and cares about their well-being. It further explains the relationships between organizations and employees based on the social exchange process and how employees perceive support reliant on how they personalize the organization. To clarify, employees treat the organization as a human and take its favorable treatment or unfavorable treatment as an indication that the organization favors or disfavors them as individuals (Eisenberger et al., 1986). Perceived organizational support is primarily based on the relationship between employees and the organization where both parties reciprocate each other. In other words, when employees perceive that the organization supports them, they reciprocate this favorable treatment by an increased level of commitment, job satisfaction, better performance, and high work efforts (Eisenberger et al., 1986). OST satisfies the socioemotional needs of employees, such as approval, esteem, affiliation, and emotional support which are directly related to perceived organizational support (Eisenberger et al., 1986).

OST supports self-enhancement processes leading to identification with the organization that is characterized by affective organizational commitment and a strong relationship between employees and organizational agents (Meyer et al., 2006). More importantly, organizational support not only improves performance but also reduces the

level of stress and increases the level of self-esteem (Figure 2) (George et al., 1993).

This support, in turn, results in greater identification and commitment to the organization, an increased desire to help the organization succeed, and better psychological well-being (Kurtessis et al., 2017).

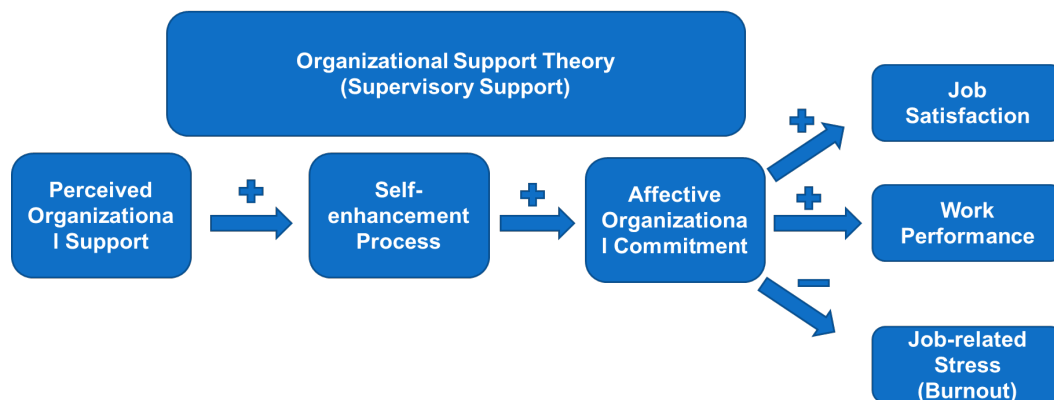


Figure2: Organizational Support Theory (OST) (George et al., 1993).

Employees view the supervisor as a representative of the organization (Eisenberger et al., 2002), and they consider supervisory actions to relate to organizational actions.

Chapter III: Methodology

Introduction

The purpose of this study was to investigate the prevalence of burnout syndrome that is characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment among respiratory therapists. It also aimed to measure the extent to which respiratory therapists are supported by their close supervisor and measure the association between perceived supervisory support and its relations to the three dimensions of burnout syndrome (Emotional Exhaustion, Depersonalization, and decreased Personal Accomplishment). This chapter will outline the research design, sampling and participants, instrumentations, variables, data analysis, and procedures of the study.

The following research questions were used to drive this study:

RQ1. What is the prevalence of burnout as defined by the MBI-HSS (MP) score (high EE, high DP, low PA) in a national sample of RTs?

RQ2. Are there significant differences between a national sample of RTs and medicine norm in terms of the three MBI-HSS (MP) subscales (EE, DP, PA) scores?

Ha2. There are significant differences in MBI-HSS (MP) subscales (EE, DP, PA) scores between a national sample of RTs and medicine norm.

RQ3. What is the perception of supervisory support as measured by the Survey of Perceived Supervisor Support (SPSS) in a national sample of RTs?

RQ4. Are there relationships between RTs' perception of supervisory support as measured by the SPSS and their overall levels of burnout as defined by the MBI-HSS (MP) score?

Ha4. There are significant relationships between the perceived supervisory support as measured by the SPSS and levels of burnout as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ5. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of emotional exhaustion as defined by the MBI-HSS (MP) score?

Ha5. There are significant relationships between perceived supervisory support as measured by SPSS and levels of emotional exhaustion as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ6. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their level of depersonalization as defined by the MBI-HSS (MP) score?

Ha6. There are significant relationships between perceived supervisory support as measured by SPSS and levels of depersonalization as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ7. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of personal accomplishment as defined by the MBI-HSS (MP) score?

Ha7. There are significant relationships between perceived supervisory support as measured by SPSS and levels of personal accomplishment as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ8: Are there differences in burnout subscales scores of the MBI-HSS (EE, DP, PA) in terms of the working settings of RTs?

Ha8: There are significant differences in burnout subscales (EE, DP, PA) scores of the MBI-HSS in terms of the working settings of RTs.

Research Design

A survey research design provides information about trends, attitudes, and opinions by studying a sample of a population. It also tests for associations among variables of a population. Survey designs can be utilized to answer three types of research questions: descriptive questions, questions about the relationships between variables, and questions about predictive relationships between variables over time (Creswell & Creswell, 2017). In survey research, researchers structure questionnaires that are self-administered and conducted by electronic or non-electronic means, allowing participants to complete the survey instrument at their own convenience. It can be standardized to reduce the potential bias from interactions with investigators as well as provide anonymity (Portney & Watkins, 2009).

This study utilized a quantitative, descriptive, correlational, non-experimental cross-sectional survey design. This research design of burnout and supervisory support in RTs is appropriate for answering the research questions to collect and analyze the

data about supervisory support and its relationship to burnout among respiratory therapists.

Sampling and Participants

Non-probability convenience sampling/snowball sampling were utilized in this study for the purposes of practicality and feasibility. Participants were recruited through AARC-Connect as well as through social media including Facebook. The principal investigator (PI) recruited participants through posting the invitation and solicitation letter including surveys' link on AARC-connect website according to AARC policy statement (Appendix A). Also, social media, including respiratory therapy Facebook closed groups were utilized to reach more participants.

The PI has been a member of AARC since 2013. AARC is a non-profit organization that supports the respiratory care profession in the US. AARC-Connect is an AARC members-only professional networking platform where members can ask questions, share resources, and connect with leaders of the respiratory therapy profession. For more details about AARC, please visit the following link:

<https://www.aarc.org/aarc/us/background/>.

The sample size was determined by a statistical calculation using G-Power 3.1 software. Sampling size can be determined by the relationship of the alpha level, effect size, power, and the number of predictors. A targeted priori sample size calculation was performed as follow: alpha level= .05, medium effect size, and targeted priori power of .80. As a result, 200 participants were needed to achieve the power of .80. Figure 3 illustrates the targeted sample size.

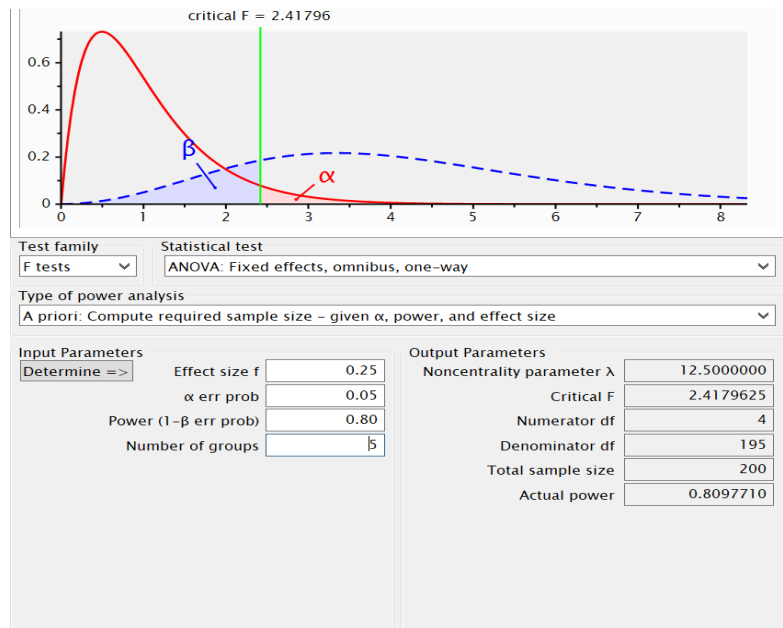


Figure 2: priori sample size calculation

The following is a list of the inclusion and exclusion criteria for this study:

Inclusion criteria:

- RTs ≥ 18 Y/O.
- Licensed respiratory therapists in the United States.
- Proficient in the English Language, reading and writing of solicitation letter and informed consent.
- Currently working as staff RTs in the United States.

Exclusion Criteria:

- Under 18 Y/O.
- Unlicensed respiratory therapists.
- Not proficient in the English language.
- Students, un-employed, manager/supervisor or retired RTs.

Instrumentation, reliability, and validity

1- Maslach burnout inventory:

Burnout is typically diagnosed based on self-reports. There are five common instruments to measure burnout: the Maslach Burnout Inventory-Human Services Survey (MBI-HSS (MP), Burnout Measure (BM), and Shirom-Melamed Burnout Measure (SMBM), Oldenburg Burnout Inventory (OLBI), and Single-Item Measure of burnout. The most widely used instrument to evaluate burnout among health care professionals is MBI-HSS (Aronsson et al., 2017).

To evaluate burnout in individuals working with patients in health care settings, the author used the MBI for Medical Personnel, or MBI-HSS (MP) (Maslach et al., 2018). Items of the MBI-HSS (MP) are all the same as those in the MBI-HSS except that the word “patients” is used in place of “recipients”. This tool is a 22-item self-reported questionnaire that is intended to ask participants on a 7-point Likert scale how frequently they have experienced certain feelings identified with their work. The MBI-HSS (MP) measures three independent subscale dimensions. First, the emotional exhaustion subscale consists of nine items to measure feelings of emotional stress and exhaustion. Second, the depersonalization subscale includes five items that identify individuals with impersonal response toward their patients. Third, the personal accomplishment subscale contains eight items that assess a lack of accomplishment and success in the work environment (Maslach et al., 2018).

Reliability coefficients for the MBI-HSS (MP) were determined on a sample of 1,316 participants. Internal consistency was estimated by Cronbach's coefficient alpha.

The reliability coefficients for the three domains were the following: 0.90 for emotional exhaustion, 0.79 for depersonalization, and 0.71 for personal accomplishment (Maslach, 2018). Besides, test-retest reliability was reported in the literature as MBI-HSS (MP) is stable over time with correlations ranging from 0.50 - 0.82 on periods of three months to one year (Maslach et al., 1997). Moreover, convergent validity was confirmed by the three following approaches: first, correlating an individual's MBI-HSS (MP) scores to other independent behavioral ratings reported by a person who knew the individual very well (Jackson & Maslach, 1982); second, correlating MBI-HSS scores to job characteristics known to contribute to burnout (Maslach et al., 1996); third, correlating the results to different outcomes known to be related to burnout. Also, discriminate validity was calculated by comparing the MBI-HSS scores with the Job Diagnostic Survey (JDS) results (Maslach et al., 1996). According to this comparison, researchers asserted that less than 6% of the variance was accounted for by any one of the three burnout domains correlations; hence, burnout is not synonymous for job dissatisfaction.

2-Survey of Perception of Supervisor Support Scale:

Consistent with Eisenberger et al. (2002), the PI measured perception of supervisory support with the same 8 items questionnaire used to assess perception of organizational support, except that word “*organization*” is replaced with the word “*supervisor*.” This scale is 8- item self-reported questionnaire that is intended to ask participants on a 7-point Likert scale. The tool has an internal reliability coefficient ranging from 0.90 to 0.93. The Likert scale ranges from 0 (Strongly Disagree) to 7 (Strongly Agree) to rate supervisor support (Eisenberger et al., 2002).

Variables

Study variables consists of several independent variables (ordinal, nominal, and interval) and one dependent variable, as follows:

Independent Variables:

- age
- gender
- years of experience
- hours work per week
- working settings
- level of supervisory support

The analyzed dependent variable is burnout. Two methods were utilized to calculate burnout in this study, the sum, and the average method. The sum method

measures burnout at the interval level by adding responses to the MBI-HSS (MP) items for each subscale and using the sum as the scale score. High scores on subscales EE and DP, and a low score on subscale PA, indicate greater experiences of burnout (Maslach & Jackson, 1981). Maslach & Jackson (1981) created the MBI subscale cut-off scores, and categories are as follows: EE, 27 or over, DP 10 or over, PA 33 or less indicating a high level of Burnout. EE= 19-26, DP= 6-9, PA=34-39 indicating a moderate level of burnout. EE= 18, or less, DP 0-5, PA 40 or over indicating a low level of burnout.

Method two, known as the sum method, also used for ease of interpretation and comparison to the medicine norm. The PI calculated the mean response for the items that make up each subscale. For all subscales, the mean scores can range from 0 (Never) to 6 (Daily). 0= never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month, 4 = once a week, 5 = a few times a week, and 6 = every day.

Procedure

The PI requested and obtained permissions for using the SPSS and MBI-HSS (MP). The permission for using SPSS was granted from the original author, Dr. Eisenberger (Appendix B) while the permission for using MBI-HSS (MP) was purchased from Mind Garden Inc. Additionally, the permission for posting the surveys' link was obtained from AARC executive board according to AARC policy. For respiratory therapy Facebook groups as a recruitment method, the PI was granted the approval to join group pages by the administrators of those groups, as he is a respiratory therapist.

Upon approval of the study by the Institutional Review Board at Seton Hall University, the AARC-Connect administrator posted the invitation and solicitation letter, on behalf of the PI (Appendix C), that contains the Internet Web address hyperlink to the surveys. The study took place online at this provided link through SurveyMonkey®. To increase the number of recruited participants, the PI also posted the Letter of Solicitation which contains surveys links on respiratory therapy Facebook groups.

Additionally, this study employed a recruitment method called snowball sampling. This way of conducting research encourages participants to forward the Letter of Solicitation which contains the study consent information and survey link to those who met the inclusion criteria listed on the Letter of Solicitation.

Participants accessed the uploaded surveys through clicking on the provided link in the Letter of Solicitation. As an alternative to obtaining informed consent, the submission of the electronic survey implies that the anonymous participant agrees to participate in the study. To clarify, participants were asked to click on "I Agree" button

and they were taken to the survey. By clicking this button, they gave their consent to participate in the study. All data collected via Survey Monkey were anonymous and de-identified. There was no correspondence between participants and the PI during this study. As the PI reached a sample size of 321 responses, he closed the survey and began the data analysis using IBM SPSS Statistics. Figure 4 is an illustration of the study procedure.

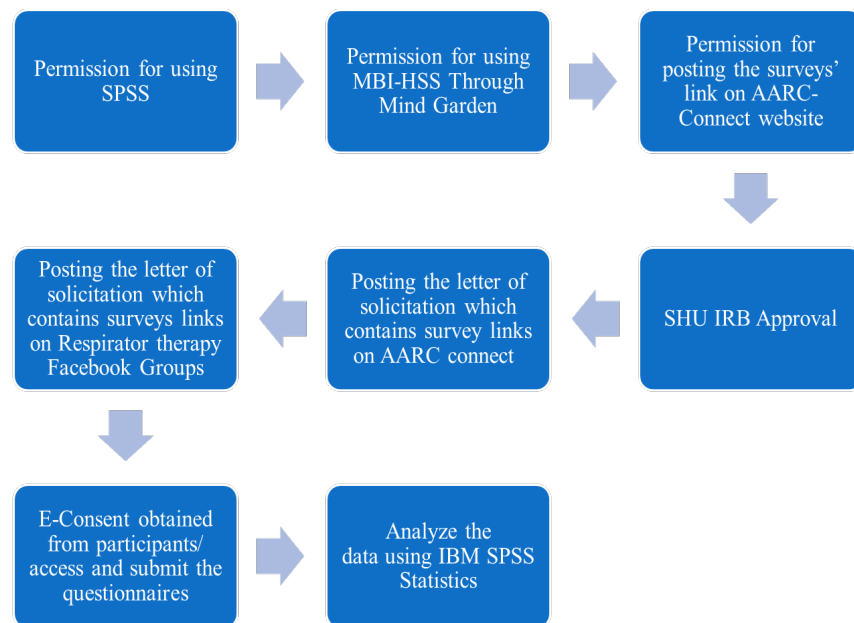


Figure 3: Study Procedure.

Data Analysis

The data collection period continued from December 6, 2020 - January 1, 2021. The PI maintained the protection and confidentiality of the data throughout the research project. No personal identifying information was collected from the participants. On January 1, 2021, the PI ended data collection and downloaded the data of 321 responses from Survey Monkey® platform to IBM SPSS Software, version 27, and stored it on a portable USB memory drive with access to the password-protected file

only known to the PI. The USB memory drive was kept securely locked in a cabinet with access only by the PI to assure data integrity.

The PI screened survey responses for eligibility of participation according to inclusion and exclusion criteria and the completeness of the surveys. As a result, 26 responses were excluded from the final analysis. So, the final analysis included only 295 responses. Analysis of the data were performed using both descriptive and inferential statistics, using SPSS Version 27.

Descriptive statistics of the participants were calculated, including mean (*M*) and standard deviation (*SD*) of age, gender, race, working settings, working hours per week, and years of experience. Likewise, *M* & *SD* of the MBI-HSS (MP) subscales items and SPSS items were calculated for research question number one and three.

In terms of inferential statistics, three one-sample t-tests were conducted to evaluate if the MBI subscales (EE, DP, PA) are significantly different from the medicine norms. This test calculates the variable's average and compares it to the normative average using the sum method to calculate MBI subscales. The normative samples for medicine include 1,104 participants with average scores: 22.19 for EE, 7.12 for DP, and 36.53 for PA (Maslach et al., 2018). In addition, the scores from the national sample of RTs were compared to the three medicine norms.

The non-parametric test, spearman rho correlation (*rs*), was used to detect the relationship between burnout and supervisory support because of the variables were measured at the ordinal level. Pearson correlation (*r*) was conducted to find the relationship between burnout subscales (EE, DP, PA) and supervisory support. One-

way ANOVA was performed to determine if there are differences in the MBI subscales (EE, DP, PA) among different work settings.

Chapter IV: Results

This chapter encompasses the findings of the presented study, including G-power analysis, study participants, the qualifying question, demographic characteristics of the participants, research questions, and hypotheses.

G-power analysis

A *a priori* G-power analysis used to calculate the required sample size indicated that 200 participants are required to reach a power of .80 at an alpha level of .05 and medium effect size. The presented study achieved 295 respondents. A post hoc G-power analysis revealed that this research had adequate sampling and reliability power of .94 at an alpha level of .05 and medium effect size (Figure 5).

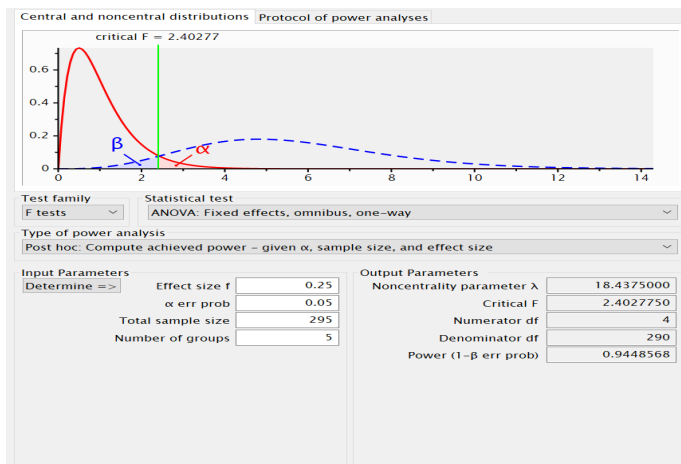


Figure 4 : Post-Hoc sample size calculation.

Study Respondents

Of 321 RTs who agreed to participate in the study, only data from 295 RTs were analyzed. The 26 responses not analyzed were either incomplete responses or did not meet the inclusion and exclusion criteria. Responses were considered incomplete data

if more than 50% of responses are missing or all the SPSS responses are missing. The final analysis included 291 respondents, which is accounted for 92% of the total recruited sample size.

Additionally, the PI used a qualifying question (screening question) to qualify and disqualify the participants from taking the survey. The PI created the screening question to exclude participants who do not meet the inclusion and exclusion criteria. For example, participants were excluded if they were not RTs. Most respondents identified themselves as respiratory therapists (279, 94.6%), followed by Neonatal-Pediatric Respiratory Therapist (7, 2.4%), Respiratory Therapist & Sleep Technologist (7, 2.4%), and Respiratory Therapist/Pulmonary Function Technologist (2, 0.7%) (Table 1).

*Table 1**What type of healthcare professionals are you?*

	N	%
Respiratory Therapist	279	94.6%
Neonatal-Pediatric Respiratory Therapist	7	2.4%
Respiratory Therapist & Sleep Technologist	7	2.4%
Respiratory Therapist/Pulmonary Function Technologist	2	0.7%

Demographic characteristics

Regarding the characteristics of the respondents, including gender and age, most respondents were females (232, 81%), and only 56 respondents (19%) were males (Table 2). Regarding the age of the respondents, most respondents were females (232), and only 56 participants (19%) were males (Table 3).

*Table 2**What is your gender?*

	N	%
Female	232	78.6%
Male	56	19.0%
Missing System	7	2.4%

In terms of the age of participants, most respondents were in the middle to high age range, which is 35 to 64. The 45-54 age group had the highest number of

respondents (89, 31%), followed by the 35- 44 age group (80, 27.1%), and only 3 participants were aged between 18-24 (Table 3).

Table 3

What is your age?

	N	%
45 to 54	89	30.2%
35 to 44	80	27.1%
55 to 64	65	22.0%
25 to 34	38	12.9%
65 to 74	14	4.7%
18 to 24	3	1.0%
Missing System	6	2.0%

In terms of race and ethnicity in this study, most participants self-identified as white (250, 84.7%) followed by Hispanic (16, 5.4%), Black or African American (13, 4.4%), Asian and American Indian (4, 1.4%), and only 2 (1.7%) of them indicated multiple ethnicities (Table 4).

Table 4

Which race/ethnicity best describes you? (Please choose only one.

	N	%
White / Caucasian	250	84.7%
Hispanic	16	5.4%

Black or African American	13	4.4%
American Indian or Alaskan Native	5	1.7%
Asian / Pacific Islander	4	1.4%
Multiple ethnicity / Other (please specify)	2	0.7%
Missing System	5	1.7%

Primary practice areas of RTs

The majority of RTs work in Acute care hospital settings. More than 240 respondents (84.1%) work in Acute Care Hospital. In addition, 14 (4.7%) respondents work in Diagnostic laboratories/ Outpatient, 13 respondents (4.4%) work in other areas, including Rehabilitation, Nursing Homes, Sleep labs, Correctional Health, Long Term Center, and Education. Moreover, 5 (1.7%) respondents work in the Physician's Office, and only 4 (1.4%) work in Durable Medical Equipment (Table 5).

Table 5

Please indicate your primary practice area

	N	%
Acute care hospital	248	84.1%
Diagnostic laboratories/ Outpatient	14	4.7%
Other (please specify)	13	4.4%
Home Care	6	2.0%
Physician office	5	1.7%
Durable Medical Equipment (DME)	4	1.4%
Missing System	5	1.7%

Most respondents had more than 20 (43%) years of experience as RTs. In other words, most of the professionals who took the survey were experienced RTs. 18% of the respondents had 6-10 years of experience, 15% had 11-15 years, and only 10% had 16-20 years' experience (Figure 6).

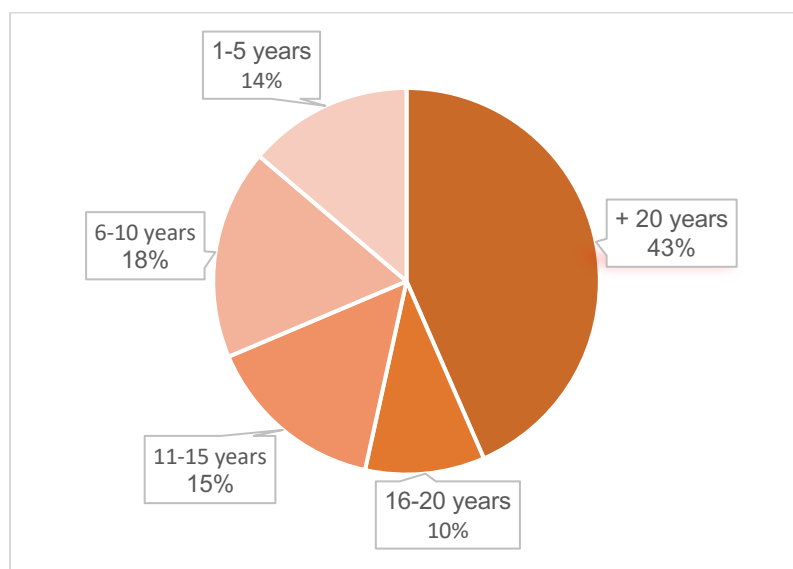


Figure 5: Respondents' years of experience as RTs.

Working Hours per Week of RTs

The respondents worked between 21-84 hours per week (excluding the missing values) with an average of 42 hours per week. Thus, most respondents worked 36 hours per week which is the standard for full-time RT in the US (Figure 7).

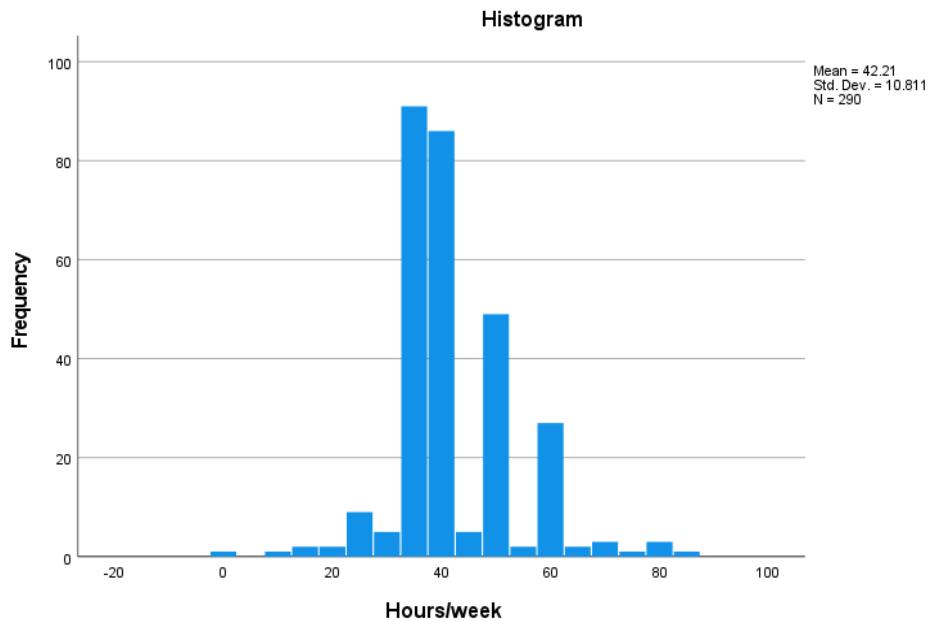


Figure 6: Respondents' working hours per week.

Research Questions/Hypotheses

Prevalence of burnout in RTs

The first research question sought to measure the prevalence of burnout in a national sample of RTs working in the United States of America.

RQ1. What is the prevalence of burnout as defined by the MBI-HSS (MP) score (high EE, high DP, low PA) in a national sample of RTs?

As mentioned earlier, two methods were utilized to calculate burnout in this study: the sum, and the average. First, the sum method measures burnout at the interval level by adding responses to the MBI-HSS (MP) items for each subscale and using the sum as the scale score. High scores on subscales EE and DP, and a low score on subscale PA, indicate greater burnout experiences (Maslach & Jackson, 1981).

Burnout syndrome is prevalent among RTs in the US. Approximately 34% of RTs met the criteria for severe burnout. Table 6 shows the prevalence of burnout by levels indicating that more than one third of RTs experienced a high level of burnout, 189 respondents (64%) indicated a moderate level of burnout, and only 6 respondents (2%) experienced a low level of burnout. In terms of burnout subscales (EE, DP, PA), more than 60% (189) were emotionally exhausted, 139 (47.1%) respondents indicated a high level of DP, and more than 192 (65%) respondents felt a sense of low personal accomplishment (Table 6).

Table 6

Prevalence of Burnout by levels (The sum)

	N	%
Burnout		
High	100	33.9%
Moderate	189	64.1%
Low	6	2.0%
MBI-HSS (MP) Subscales		
<i>Emotional Exhaustion</i>		
High	197	66.8%
Low to Moderate	98	33.2%
<i>Depersonalization</i>		
Low to Moderate	156	52.9%

High	139	47.1%
<i>Personal Accomplishment</i>		
Low	192	65.1%
Moderate to High	103	34.9%

The PI also evaluated the prevalence of burnout by frequency by calculating the mean responses for the items that make up each MBI subscale. The mean scores can range from 0 (Never) to 6 (Daily) for all subscales. 0= never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month, 4 = once a week, 5 = a few times a week, and 6 = every day. For ease of interpretation, the PI calculated the mean response for the items that make up each subscale. Scores were interpreted separately, indicating that (1) RTs, on average, experienced EE several times a month; (2) RTs, on average experienced DP once a month; (3) RTs, on average, experienced a sense of low PA several times a month (Table 7).

Table 7

Prevalence of Burnout by Frequency

	Emotional Exhaustion	Depersonalizatio n	Personal Accomplishment
Mean	3.4588	1.9241	3.4588
Std. Deviation	1.15000	1.30728	1.15000

RTs' MBI subscales versus Medicine norm MBI subscales

Inferential statistics were utilized in this study to test the proposed research questions and hypotheses.

RQ2. Are there significant differences between a national sample of RTs and medicine norm in terms of the three MBI-HSS (MP) subscales (EE, DP, PA) scores?

Three independent samples *t*-tests were conducted to evaluate if the MBI subscales (EE, DP, PA) are significantly different from the medicine norms. This test calculates the variable's average and compares it to the normative average using the sum method to calculate MBI subscales. The normative samples for medicine include 1,104 participants with average scores: 22.19 for EE, 7.12 for DP, and 36.53 for PA (Maslach et al., 2018). Then, the scores from the national sample of RTs were compared to the three medicine norms.

Ha2_a. There is a *significant difference* in the EE subscale of MBI-HSS (MP) scores between a national sample of RTs and medicine norm.

Results of the independent-samples *t*-test comparing the mean scores of EE for RTs and the mean scores of EE for medicine norm found a significant difference

between the means of the two groups ($t(1397) = 13.88, p < .05$). The mean scores of EE for RTs were significantly higher ($M=31.03, SD=10.38$) than the mean scores of EE for Medicine norm ($M=22.19, SD=9.53$) (Table 8).

Table 8

RTs versus Medicine norm for EE

	N	Mean	Std. Deviation	Std. Error Mean
EE for RTs	295.000	31.030	10.380	.604
EE for Medicine Norm	1104.000	22.190	9.530	.287

RTs versus Medicine norm for EE

	Mean Difference	Std. Error Difference	t	df	Sig. (2-tailed)
Equal variances assumed	8.840	.669	13.214	1397.000	.000
Equal variances not assumed	8.840	.637	13.883	496.639	.000

Hartley test for equal variance: $F = 1.186, \text{Sig.} = 0.0364$

Ha2_b. There is a significant difference in the DP subscale of MBI-HSS (MP) scores between a national sample of RTs and medicine norm.

Results of the independent-samples t -test comparing the mean scores of DP for RTs and the mean scores of DP for Medicine norm found a significant difference between the means of the two groups ($t(1397) = 6.85, p < .05$). The mean scores of DP for RTs were significantly higher ($M=9.60, SD=6.52$) than the mean scores of DP for Medicine norm ($M=7.12, SD=5.22$) (Table 9).

Table 9

RTs versus Medicine norm for DP

	N	Mean	Std. Deviation	Std. Error Mean
DP for RTs	295.000	9.600	6.520	.380
DP for Medicine Norm	1104.000	7.120	5.220	.157

RTs versus Medicine norm for DP

	Mean Difference	Std. Error Difference	t	df	Sig. (2-tailed)
Equal variances assumed	2.480	.362	6.856	1397.000	.000
Equal variances not assumed	2.480	.411	6.037	400.206	.000

Hartley test for equal variance: $F = 1.560$, $\text{Sig.} = 0.0000$

Ha2c. There is a significant difference in the PA subscale of MBI-HSS (MP) scores between a national sample of RTs and medicine norm.

Results of the independent sample *t*- test comparing the mean scores of PA for RTs and the mean scores of PA for Medicine norm found a significant difference between the means of the two groups ($t(1397) = -13.64$, $p < .05$). The mean scores of PA for RTs were significantly lower ($M=30.70$, $SD=6.76$) than the mean scores of PA for Medicine norm ($M=36.53$, $SD=7.3$) (Table10).

Table 10

RTs versus Medicine norm for PA

	Mean Difference	Std. Error Difference	t	df	Sig. (2- tailed)
Equal variances assumed	-6.460	.473	- 13.648	1397.0 00	.000
Equal variances not assumed	-6.460	.451	- 14.313	495.31 3	.000

Hartley test for equal variance: F = 1.179, Sig. = 0.0419

RTs versus Medicine norm for PA

	Mean Difference	Std. Error Difference	t	df	Sig. (2- tailed)
Equal variances assumed	-6.460	.473	- 13.648	1397.0 00	.000
Equal variances not assumed	-6.460	.451	- 14.313	495.31 3	.000

Hartley test for equal variance: F = 1.179, Sig. = 0.0419

Perception of supervisory support in RTs

The PI utilized the SPSS to measure the perception of supervisory support among a national sample of RTs in the United States as follows:

RQ3. What is the perception of supervisory support as measured by the Survey of Perceived Supervisor Support (SPSS) in a national sample of RTs?

Calculation of the level of supervisor support indicated that RTs, on average, experienced a low level of supervisory support at their workplace (Table 11).

Scoring of the SPSS was with an absolute summed approach for the total 8-items scale and with a mean score approach for the individual questions to represent low, medium, or high levels of supervisory support (Eisenberger et al., 1986; Eisenberger et al., 2002). 1 to 2.9 represents a low level of supervisory support, a range of 3.0 to 5.0 represents medium supervisory support, and a range of 5.1 to 7 represents high supervisory support. Most of RTs perceived their supervisor support level as low (146, 49.5%). 130 (44.1%) respondents indicated a medium level of supervisor support, and only 19 (6.4%) respondents perceived a high level of supervisory support (Table 11).

Scoring of the SPSS was with an absolute summed approach for the total 8-items scale and with a mean score approach for the individual questions to represent low, medium, or high levels of supervisory support (Eisenberger et al., 1986; Eisenberger et al., 2002). 1 to 2.9 represents a low level of supervisory support, a range of 3.0 to 5.0 represents medium supervisory support, and a range of 5.1 to 7 represents high supervisory support. Most of RTs perceived their supervisor support level as low (146, 49.5%). 130 (44.1%) respondents indicated a medium level of supervisor support, and only 19 (6.4%) respondents perceived a high level of supervisory support (Table 12).

Table 11

Perception of Supervisory Support

	N	M	SD
Supervisory Support (AVE)	295	2.9728	1.37951
Valid N (listwise)	295		

Table 12

Supervisory Support by Levels

	N	%
Low	146	49.5%
Medium	130	44.1%
High	19	6.4%

The relationship between burnout and supervisory support in RTs

The fourth research question is intended to evaluate the relationship between burnout and supervisory support in a national sample of RTs.

RQ4. Are there relationships between RTs' perception of supervisory support as measured by the SPSS and their overall levels of burnout as defined by the MBI-HSS (MP) score?

Ha4. There are significant relationships between the perception of supervisory support as measured by the SPSS and levels of burnout as defined by the MBI-HSS (MP) score among a national sample of RTs.

Spearman's rho correlation test is often used to evaluate relationships involving ordinal variables. It is used in this study because of the variables measured at the ordinal level (Field, 2013).

A spearman's rho correlation coefficient was calculated for the relationships between the perception of supervisory support and levels of burnout. A negative correlation was found ($r_s = -.262$, $p < .001$), indicating overall burnout is significantly related to how much RTs are supported by their supervisors (Table 13).

Table 13

Relationship between Supervisory Support and Burnout

			Supervisory Support	Burnout
Spearman's rho	Supervisory Support	Correlation Coefficient	1.000	.262**
		Sig. (2-tailed)	.	.000
	Burnout	Correlation Coefficient	.262**	1.000
		Sig. (2-tailed)	.000	.

** . Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N = 295

RQ5. Are there relationships between RTs perception of supervisory support as measured by SPSS and their levels of emotional exhaustion as defined by the MBI-HSS (MP) score?

Ha5. There are significant relationships between perceived supervisory support as measured by SPSS and levels of emotional exhaustion as defined by the MBI-HSS (MP) score among a national sample of RTs.

A Pearson correlation coefficient was calculated to evaluate the relationships between the perception of supervisory support and the Emotional Exhaustion subscale levels. A negative correlation was found ($r = -.414$, $p < .001$), indicating Emotional Exhaustion is significantly related to how much RTs are supported by their supervisors, $r = -.414$, $p < .001$ (Table 14).

Table 14

The relationships between Supervisory Support & Emotional Exhaustion

		Supervisory Support	Emotional Exhaustion
Supervisory Support	Pearson Correlation	1	-.414**
	Sig. (2-tailed)		.000
Emotional Exhaustion	Pearson Correlation	-.414**	1
	Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=295

RQ6. Are there relationships between RTs perception of supervisory support as measured by SPSS and their level of depersonalization as defined by the MBI-HSS (MP) score?

Ha6. There are significant relationships between perceived supervisory support as measured by SPSS and levels of depersonalization as defined by the MBI-HSS (MP) score among a national sample of RTs.

A Pearson correlation coefficient was calculated for the relationships between the perception of supervisory support and levels of depersonalization subscale. A negative correlation was found ($r = -.302$, $p < .001$), indicating Depersonalization is significantly related to how much RTs are supported by their supervisors (Table15).

Table 15

Relationships between Supervisory Support & Depersonalization

		Supervisory Support	Depersonalizati on
Supervisory Support	Pearson Correlation	1	-.302**
	Sig. (2-tailed)		.000
Depersonalization	Pearson Correlation	-.302**	1
	Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=295

RQ7. Are there relationships between RTs perception of supervisory support as measured by SPSS and their levels of personal accomplishment as defined by the MBI-HSS (MP) score?

Ha7. There are significant relationships between perceived supervisory support as measured by SPSS and levels of personal accomplishment as defined by the MBI-HSS (MP) score among a national sample of RTs.

A Pearson correlation coefficient was calculated to evaluate the relationships between the perception of supervisory support and the Personal Accomplishment subscale levels. A positive correlation was found ($r = .214, p < .001$), indicating Personal Accomplishment is significantly related to how much RTs are supported by their supervisors (Table 16).

Table 16

*Relationships between Supervisory Support & Personal Accomplishment
Depersonalization*

		Supervisory Support	Personal Accomplishment
Supervisory Support	Pearson Correlation	1	.214**
	Sig. (2-tailed)		.000
Personal Accomplishment	Pearson Correlation	.214**	1
	Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=295

Finally, the PI hypothesized that there were significant differences in burnout subscales scores of the MBI (EE, DP, PA) subscales in terms of the working settings of RTs. Using the one-way analysis of variance test to compare burnout subscales (EE, DP, PA), scores of the MBI-HSS (MP) for RTs who work in different settings showed no significant differences between the variables.

RQ8. Are there significant differences in burnout subscales scores of the MBI-HSS (MP) (EE, DP, PA) in terms of the working settings of RTs?

Ha8: There are significant differences in burnout subscales (EE, DP, PA) scores of the MBI-HSS (MP) in terms of the working settings of RTs (Table 17).

Table 17

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Emotional Exhaustion	Between Groups	923.245	5	184.649	1.718	.130
	Within Groups	30529.172	284	107.497		
	Total	31452.417	289			
Depersonalization	Between Groups	168.089	5	33.618	.797	.553
	Within Groups	11978.894	284	42.179		
	Total	12146.983	289			
Personal Accomplishment	Between Groups	67.437	5	13.487	.296	.915
	Within Groups	12948.232	284	45.592		
	Total	13015.669	289			

Summary Findings

A total of 295 RTs completed the electronic survey. Characteristics of the study participants include the fact that most of them were white (250, 84.7%), females (232, 81%), and only 56 (19%) participants were males and were in the middle to high age range (35 to 64 Y/O). Most of the participants were experienced RTs (>50%) as they reported more than 20 years of experience as RTs. In terms of the working hours per week, on average, participants worked 42 hours per week.

Data were analyzed using descriptive statistics, independent samples *t*-tests, spearman rho correlation (*rs*), Pearson correlation coefficient, and one-way ANOVA. The statistical analysis of burnout in this study indicated that 34% of RTs met the criteria for severe burnout, and more than 60% were emotionally exhausted. Also, there were significant differences between the mean scores of EE, DP, PA for RTs, and the medicine norm.

In addition, RTs, on average, experienced a low level of supervisory support (49.5%) at their workplace. Interestingly, a negative correlation was found between burnout levels and the perception of supervisory support levels ($rs = -.262, p < .001$), indicating overall burnout is significantly related to how much RTs are supported by their supervisors. Finally, the PI failed to reject the proposed null hypothesis, indicating no significant differences in burnout subscales scores of the MBI (EE, DP, PA) subscales in terms of the working settings of RTs.

Chapter V: Discussion

Introduction

Maslach (1982) refers to burnout as a prolonged response to chronic stressors, including emotional exhaustion, depersonalization, and reduced personal achievement in the workplace. Burnout is not only a response to excessive stress but also a combination of each unique physical, mental, and emotional reaction to persistent levels of high stress. Burnout is correlated with negative feelings about the patient and poor quality of patient care (Maslach & Leiter, 2016). As a result, a wide range of interventional strategies has shown promise in addressing this problem in the health care arena. However, the building of social networks characterized by many ongoing social interactions and reciprocal exchanges, including supervisory support, has been recognized as an effective buffer for burnout effects (Kickul & Posig, 2001).

Among susceptible health professionals, respiratory therapists have been recognized as individuals who are more likely to experience burnout because of the nature of their stressful and demanding work (Shelledy et al., 1992; Knight, 2013). Therefore, the primary object of this study was to examine the relationship between the perceived supervisory support and the three dimensions of burnout syndrome subscales (EE, DP& PA) within the respiratory therapy profession. This current research study was the first study, to my knowledge, to investigate the prevalence of burnout and its association to supervisory support in terms of the three aspects: value, help, and cares about RTs' wellbeing.

The following research questions were used to drive this study:

RQ1. What is the prevalence of burnout as defined by the MBI-HSS (MP) score (high EE, high DP, low PA) in a national sample of RTs?

RQ2. Are there significant differences between a national sample of RTs and medicine norm in terms of the three MBI-HSS (MP) subscales (EE, DP, PA) scores?

Ha2. There are significant differences in MBI-HSS (MP) subscales (EE, DP, PA) scores between a national sample of RTs and medicine norm.

RQ3. What is the perception of supervisory support as measured by the Survey of Perceived Supervisor Support (SPSS) in a national sample of RTs?

RQ4. Are there relationships between RTs' perception of supervisory support as measured by the SPSS and their overall levels of burnout as defined by the MBI-HSS (MP) score?

Ha4. There are significant relationships between the perceived supervisory support as measured by the SPSS and levels of burnout as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ5. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of emotional exhaustion as defined by the MBI-HSS (MP) score?

Ha5. There are significant relationships between perceived supervisory support as measured by SPSS and levels of emotional exhaustion as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ6. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their level of depersonalization as defined by the MBI-HSS (MP) score?

Ha6. There are significant relationships between perceived supervisory support as measured by SPSS and levels of depersonalization as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ7. Are there relationships between RTs' perception of supervisory support as measured by SPSS and their levels of personal accomplishment as defined by the MBI-HSS (MP) score?

Ha7. There are significant relationships between perceived supervisory support as measured by SPSS and levels of personal accomplishment as defined by the MBI-HSS (MP) score among a national sample of RTs.

RQ8: Are there differences in burnout subscales scores of the MBI-HSS (EE, DP, PA) in terms of the working settings of RTs?

Ha8: There are significant differences in burnout subscales (EE, DP, PA) scores of the MBI-HSS in terms of the working settings of RTs.

Research Findings

Reviewing the literature about the prevalence of burnout among RTs revealed little research that addressed this profession as the only unit of analysis. Most of the literature combines RTs with other health care practitioners (Johnson-Coyle et al., 2016; Guntupalli et al., 2014 & Jacobs, Nawaz, Hood, & Bae, 2012). The lack of research in this profession provided several opportunities for further investigations.

The findings from this study concluded that burnout syndrome is prevalent among RTs in the US. Approximately 34% of RTs met the criteria for severe burnout.

The prevalence of burnout by levels indicated that more than one-third of RTs experienced a high level of burnout, 189 Participants (64%) indicated a moderate level of burnout, and only 6 participants (2%) experienced a low level of burnout. In terms of burnout subscales (EE, DP, PA), more than 60% (189) were emotionally exhausted, 139 (47.1%) participants indicated a high level of DP, and more than 192 (65%) participants felt a sense of low PA. Not surprisingly, the current study results are almost consistent with the findings of Knight's (2013) study. Knight (2013) concluded that approximately one-third of RTs participants indicated a high level of burnout.

Interestingly, Guntupalli and colleges (2014) also reported a high level of burnout among ICU professionals, including RTs. The authors reported that 54% of the staff suffered from moderate to severe EE, 41% suffered from moderate to severe DP, and 40% had low PA. Additionally, Johnson-Coyle et al. (2016) exhibited a high level of burnout, and RTs have reported the highest level of burnout. A more recent study by Miller et al. (2021) that explored burnout among RTs concluded that more than 70% of respondents experienced burnout with few respiratory therapy departments that measure burnout (22,10%).

The PI collected data at the time of the Covid-19 pandemic. The Covid-19 pandemic has overwhelmed the health care system, adding challenges, stressors, and ethical dilemmas to the health care professionals' toll (Evans, 2021). The data collection period continued from December 6, 2020 - January 1, 2021. This time of uncertainty might affect the presented results. Surprisingly, in evaluating the key drivers of burnout, Covid-19 is only accounted for 13.6% of burnout key drivers. Moreover, there were no significant differences in the reported burnout between RTs working in Covid-19

hotspots and those who work in non-Covid-19-hotspots. This evidence raises the question of whether self-perception of burnout is a generalized concern among RTs.

Recall of the conceptual framework in this study that high job demands in the presence of low resources are predictive of burnout syndrome. Burnout can be explained by the interactions between job demands and job resources, as high levels of burnout were reported by employees when high job demands combined with low job resources. Therefore, job resources have potential buffering effects on stress reactions, including burnout.

The findings of this study support the proposed conceptual framework that explains the nature of supervisory support and its buffering effect on burnout in the respiratory therapy populations. Supervisory support in the respiratory therapy departments can be utilized as a resource investment and protection mechanism against stress reactions due to high demands for respiratory therapy services. This additional social resource can buffer the energetic depletion that might happen due to the loss of regulatory resources (Hobfoll, 1989).

A negative correlation was found between the level of supervisory support and burnout in a national sample of RTs ($r_s = -.262, p < .001$), indicating that overall burnout is significantly related to how much their supervisors support RTs. These findings are consistent with Shelledy et al. (1992), Knight (2013), and Gibson, Grey, & Hastings (2009) studies. The authors found that a high level of supervisory support is negatively associated with a low level of burnout.

Additionally, Shanafelt et al. (2015) explored the impact of organizational leadership on physician burnout and satisfaction, and they found a strong correlation

between leadership quality scores and burnout scores ($P > .001$). Moreover, a longitudinal study explored supervisory support and burnout by Fukui, Wu, & Salyers (2019) indicated that as supervisor support level increases, turnover intention decreases by reducing emotional exhaustion four-time points. Finally, the most recent study by Miller (2021) found that leadership is the most common driver of burnout.

All the aforementioned research studies that measured burnout in RTs (reviewed by this author) showed interestingly high burnout levels among the study groups as well as the importance of leadership in preventing and alleviating burnout. However, none of them addressed the perception of supervisory support from many aspects, including value, help, and care about employees' well-being. This study emphasized the importance of supervisory support and how RTs who perceived their supervisor level to be low in terms of value, help, and care aspects had more burnout experience.

Study Limitations

This study has several limitations to consider. The main limit of the presented research is the study design. Indeed, the cross-sectional, non-experimental nature of the study does not allow a cause-effect relationship statement to be made between the associated variables, particularly about burnout and supervisory support among RTs. The second limitation relates to the sampling methodology. Non-probability convenience sample that is not randomized was utilized. Also, it is essential to note that the participants in this study were recruited from the AARC members-only professional networking platform and respiratory therapists' Facebook closed groups. It cannot be generalized to all RTs nationwide. Third, the data collection was executed at the time of

the Covid-19 pandemic. This time of uncertainty might alter the precision of the results. It is not well known that RTs experienced burnout due to Covid-19 or other causes. The fourth limitation relates to the disadvantage of using self-reported questionnaires. Respondents might provide dishonest answers, left some questions unanswered, or unconsciously respond.

Recommendations for Future Research

The current findings of this study revealed that burnout is prevalent among RTs in the US. Yet, this study yields many questions for future scholarly research. Recommendations for future research on the topic of burnout and supervisory support among a national sample of RTs could include changes in the methodology and the study variables. One recommendation is to measure the prevalence of burnout by state. The second recommendation is to conduct a qualitative or mixed-method study design that measures burnout among RTs and its relationship to supervisory support. The third recommendation for future research further investigates a longitudinal experimental study that evaluates the effect of specific supervisory support strategies on burnout, such as clinical supervision. The fourth suggestion for the prospective study is to examine the impact of burnout on patients' care among RTs. The fifth recommendation is to reevaluate burnout level after the Covid-19 pandemic dramatically decreased.

Conclusion

RTs are highly vulnerable to burnout by virtue of their profession. The national shortage of RT staff further increased this toll. In fact, burnout has a detrimental impact on RTs' health as well as patient care. However, providing a supportive work

environment by respiratory therapy supervisor is one of the cost-effective resources to mitigate burnout. As per this study findings, burnout is clearly prevalent among RTs in the United States. More importantly, the study results confirm the negative relationship between burnout and supervisory support. Lastly, this study provides insights on the specific positive impact of supervisory support on burnout among respiratory therapists.

Implications for Practice

Even though the gained information of this study is preliminary, it makes a valuable contribution to the literature about RTs' burnout experience and their level of supervisory support. Organizational-directed strategies to reduce burnout are crucial. Health care professionals /RT leaders can use information from this study to prevent and mitigate this work-related stress by (1) evaluating RTs' workloads and reducing non-evidence-based practice; (2) implementing RT driven protocol and (3) implementing supervisory support strategies, including clinical supervision. Effective implementation of these strategies improves the quality of health care and reduces the cost of therapy by increasing employees' job satisfaction, organizational commitment and eventually a reduction in staff turnover.

References

- AACN standards for establishing and sustaining healthy work environments: A journey to excellence. (2005). *American Journal of Critical Care*, (3), 187.
- Akhtar, S., & Lee, J. S. Y. (2010). Job burnout: Toward an integration of two dominant resource-based models. *Psychological Reports*, 107(1), 193–208.
- Aronsson, G., Theorell, T., Grape, T., Hammarström, A., Hogstedt, C., Marteinsdottir, I., Skoog, I., Träskman-Bendz, L., & Hall, C. (2017). A systematic review including meta-analysis of work environment and burnout symptoms. *BMC Public Health*, 17(1), 264.
- Ayers, S., Baum, A., McManus, C., Newman, S., Wallston, K., Weinman, J., & West, R. (2007). *Cambridge handbook of psychology, health and medicine*. Cambridge University Press.
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, 10(2), 170.
- Beck, J. S. (2011). *Cognitive behavior therapy: Basics and beyond* (2nd ed). Guilford Press.
- Behson, S. J. (2005). The relative contribution of formal and informal organizational work–family support. *Journal of Vocational Behavior*, 66(3), 487-500.
- Brady, S. B., & Keene, S. (2008). Respiratory therapists can facilitate positive change with institutional support. *The Internet Journal of Healthcare Administration*, 6(1).
- Burnout and healthCare – Editorial. (2014). *Burnout Research*, 1(2), 57–58.
- Chlan, L. L. (2013). Burnout syndrome among critical care professionals: a cause for alarm. *Critical Care Alert*, 21(9), 65–68.
- Chuang, C.-H., Tseng, P.-C., Lin, C.-Y., Lin, K.-H., & Chen, Y.-Y. (2016). Burnout in the intensive care unit professionals: A systematic review. *Medicine*, 95(50), e5629.
- Copanitsanou, P., Fotos, N., & Brokalaki, H. (2017). Effects of work environment on patient and nurse outcomes. *British Journal of Nursing (Mark Allen Publishing)*, 26(3), 172–176.
- Cox, T., & Griffiths, A. (2005). *The nature and measurement of work-related stress: Theory and practice* (J. R. Wilson & N. Corlett, Eds.). Routledge.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage publications.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *The Journal of Applied Psychology*, 86(3), 499–512.

- Department of Health (1993) A Vision for the future report of the chief nursing officer. HMSO, London, UK.
- Donchin, Y., & Seagull, F. J. (2002). The hostile environment of the intensive care unit. *Current Opinion in Critical Care*, 8(4), 316–320.
- Duarte, J., & Pinto-Gouveia, J. (2016). Effectiveness of a mindfulness-based intervention on oncology nurses' burnout and compassion fatigue symptoms: A non-randomized study. *International Journal of Nursing Studies*, 64, 98–107.
- Edwards, D., Burnard, P., Hannigan, B., Cooper, L., Adams, J., Juggessur, T., ... Coyle, D. (2006). Clinical supervision and burnout: the influence of clinical supervision for community mental health nurses. *Journal of Clinical Nursing*, 15(8), 1007–1015.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71(3), 500–507.
- Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: contributions to perceived organizational support and employee retention. *The Journal of Applied Psychology*, 87(3), 565–573.
- Embriaco, N., Azoulay, E., Barrau, K., Kentish, N., Pochard, F., Loundou, A., & Papazian, L. (2007). High level of burnout in intensivists: Prevalence and associated factors. *American Journal of Respiratory and Critical Care Medicine*, 175(7), 686–692.
- Evans, D. L. (2021). The impact of COVID-19 on respiratory therapist burnout. *Respiratory Care*, 66(5), 881–883.
- Felder, J. N., Dimidjian, S., & Segal, Z. (2012). Collaboration in mindfulness-based cognitive therapy. *Journal of Clinical Psychology*, 68(2), 179–186.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. SAGE.
- Flynn, L., Thomas-Hawkins, C., & Clarke, S. P. (2009). Organizational traits, care processes, and burnout among chronic hemodialysis nurses. *Western Journal of Nursing Research*, 31(5), 569–582.
- Flynn, S. I. (2016). Respiratory therapist. *Salem Press Encyclopedia*.
- Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues*, 30(1), 159.
- Fukui, S., Wu, W., & Salyers, M. P. (2019). Impact of supervisory support on turnover intention: The mediating role of burnout and job satisfaction in a longitudinal study.

Administration and Policy in Mental Health and Mental Health Services Research, 46(4), 488–497.

George, J. M., Reed, T. F., Ballard, K. A., Colin, J., & Fielding, J. (1993). Contact with AIDS patients as a source of work-related distress: Effects of organizational and social support. *Academy of Management Journal*, 36(1), 157–171.

Golembiewski, R. T. (2000). *Handbook of organizational behavior, revised and expanded*. CRC Press.

Gómez-Urquiza, J. L., Emilia, I., Albendín-García, L., Vargas-Pecino, C., Ortega-Campos, E. M., & Cañadas-De la Fuente, G. A. (2017). Prevalence of burnout syndrome in emergency nurses: A meta-analysis. *Critical Care Nurse*, 37(5), e1–e9.

Guntupalli, K. K., Wachtel, S., Mallampalli, A., & Surani, S. (2014). Burnout in the intensive care unit professionals. *Indian Journal of Critical Care Medicine: Peer-Reviewed, Official Publication of Indian Society of Critical Care Medicine*, 18(3), 139–143.

Heiman, M. (1981). Burn-Out: Stages of disillusionment in the helping professions—by Jerry Edelwich, M.S.W., with Archie Brodsky; Human Sciences Press, New York City, 1980, 255 pages. *Psychiatric Services*, 32, 353–354.

Hinderer, K. A., VonRueden, K. T., Friedmann, E., McQuillan, K. A., Gilmore, R., Kramer, B., & Murray, M. (2014). Burnout, compassion fatigue, compassion satisfaction, and secondary traumatic stress in trauma nurses. *Journal of Trauma Nursing: The Official Journal of the Society of Trauma Nurses*, 21(4), 160–169.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513.

Hooper, C., Craig, J., Janvrin, D. R., Wetsel, M. A., & Reimels, E. (2010). Compassion satisfaction, burnout, and compassion fatigue among emergency nurses compared with nurses in other selected inpatient specialties. *Journal of Emergency Nursing: JEN: Official Publication of the Emergency Department Nurses Association*, 36(5), 420–427.

Hunsaker, S., Chen, H.-C., Maughan, D., & Heaston, S. (2015). Factors that influence the development of compassion fatigue, burnout, and compassion satisfaction in emergency department nurses. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing*, 47(2), 186–194.

Jackson, S. E., & Maslach, C. (1982). After-effects of job-related stress: Families as victims. *Journal of Organizational Behavior*, 3(1), 63–77.

- Jacobs, L. M., Nawaz, M. K., Hood, J. L., & Bae, S. (2012). Burnout among workers in a pediatric health care system. *Workplace Health & Safety*, 60(8), 335–344.
- Jill Kickul, & Margaret Posig. (2001). Supervisory emotional support and burnout: An explanation of reverse buffering effects. *Journal of Managerial Issues*, (3), 328.
- Kacmarek, R. M., Barnes, T. A., & Durbin, C. G. (2012). Survey of directors of respiratory therapy departments regarding the future education and credentialing of respiratory care students and staff. *Respiratory Care*, 57(5), 710–720.
- Kacmarek, R. M., Durbin, C. G., Barnes, T. A., Kageler, W. V., Walton, J. R., & O'Neil, E. H. (2009). Creating a vision for respiratory care in 2015 and beyond. *Respiratory Care*, 54(3), 375–389.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692–724.
- Kalliath, T. J., & Beck, A. (2001). Is the path to burnout and turnover paved by a lack of supervisory support? A structural equation test. *New Zealand Journal of Psychology*, 30(2), 72.
- Kalliath, T. J., & Beck, A. (2001). Is the path to burnout and turnover paved by a lack of supervisory support? A Structural Equations Test. *New Zealand Journal of Psychology*, 30(2), 72.
- Knight, S. D. (2013). *Personal and professional factors impacting respiratory therapists' burnout in georgia*. WALDEN UNIVERSITY.
- Kumar, S. (2016). Burnout and doctors: Prevalence, prevention and intervention. *Healthcare (Basel, Switzerland)*, 4(3).
- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived organizational support: A meta-analytic evaluation of organizational support theory. *Journal of Management*, 43(6), 1854–1884.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
- Le Blanc, P. M., Hox, J. J., Schaufeli, W. B., Taris, T. W., & Peeters, M. C. (2007). Take care! The evaluation of a team-based burnout intervention program for oncology care providers. *Journal of Applied Psychology*, 92(1), 213.
- Lee, H.-F., Kuo, C.-C., Chien, T.-W., & Wang, Y.-R. (2016). A Meta-analysis of the effects of coping strategies on reducing nurse burnout. *Applied Nursing Research: ANR*, 31, 100–110.

- Leka, S., Jain, A., & Organization, W. H. (2010). *Health impact of psychosocial hazards at work: An overview*. World Health Organization.
- Maslach burnout inventory manual (4th ed.). (2018). *Mind Garden, Inc.*
- Maslach, C. (1982). *Understanding burnout: Definitional in analyzing a complex phenomenon*. Ws Paine (ed.): *Job stress and burnout*. Beberly Hills. California: Sage.
- Maslach, C. (1998). A multidimensional theory of burnout. *Theories of Organizational Stress*, 68, 85.
- Maslach, C. and Jackson, S.E. (1982) Burnout in health professions: A social psychological analysis. In: Sanders, G.S. and Suls, J., (Eds.), *Social Psychology of Health and Illness*, (pp. 227-251) Erlbanm, Hillsdale.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, 2(2), 99–113.
- Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 15(2), 103–111.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach burnout inventory manual* (3rd ed). Consulting Psychologists Press.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *MBI Maslach Burnout Inventory*. CPP.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397–422.
- Mealer, M. L., Shelton, A., Berg, B., Rothbaum, B., & Moss, M. (2007). Increased prevalence of post-traumatic stress disorder symptoms in critical care nurses. *American Journal of Respiratory and Critical Care Medicine*, 175(7), 693–697.
- Mealer, M., Jones, J., & Moss, M. (2012). A qualitative study of resilience and posttraumatic stress disorder in United States ICU nurses. *Intensive Care Medicine*, 38(9), 1445–1451.
- Menezes, M. A., Hodgson, J. M., Sahhar, M., & Metcalfe, S. A. (2013). “Taking its toll”: The challenges of working in fetal medicine. *Birth (Berkeley, Calif.)*, 40(1), 52–60.
- Merlani, P., Verdon, M., Businger, A., Domenighetti, G., Pargger, H., Ricou, B., & STRESI+ Group. (2011). Burnout in icu caregivers: A multicenter study of factors associated to centers. *American Journal of Respiratory and Critical Care Medicine*, 184(10), 1140–1146.

- Metcalf, A. Y., Stoller, J. K., Habermann, M., & Fry, T. D. (2015). Respiratory therapist job perceptions: The impact of protocol use. *Respiratory Care*, 60(11), 1556–1559.
- Meyer, J. P., Becker, T. E., & Van Dick, R. (2006). Social identities and commitments at work: Toward an integrative model. *Journal of Organizational Behavior*, 27(5), 665–683.
- Moss, M., Good, V. S., Gozal, D., Kleinpell, R., & Sessler, C. N. (2016). An official critical Care societies collaborative statement-burnout syndrome in critical care health-care professionals: A call for action. *Chest*, 150(1), 17–26.
- Peckham, carol. (2015, January 26). Physician burnout: It just keeps getting worse.
- Poncet, M. C., Toullic, P., Papazian, L., Kentish-Barnes, N., Timsit, J.-F., Pochard, F., ... Azoulay, E. (2007). Burnout syndrome in critical care nursing staff. *American Journal of Respiratory And Critical Care Medicine*, 175(7), 698–704.
- Portney, Leslie Gross, and Mary P. Watkins. *Foundations of clinical research: applications to practice*. Vol. 892. Upper Saddle River, NJ: Pearson/Prentice Hall, 2009.
- Potter, P., Deshields, T., Divanbeigi, J., Berger, J., Cipriano, D., Norris, L., & Olsen, S. (2010). Compassion fatigue and burnout: prevalence among oncology nurses. *Clinical Journal of Oncology Nursing*, 14(5), E56–62.
- practice* (3rd ed.). Upper Saddle River, NJ: Prentice-Hall.
- Proctor, B. (1986). Supervision: a co-operative exercise in accountability, Enabling and ensuring. *Leicester National Youth Bureau and Council for Education and Training in Youth Work, Leicester*.
- Respiratory Therapists: Occupational outlook handbook: U.S. Bureau of labor statistics. (n.d.). Retrieved April 16, 2017, from <https://www.bls.gov/ooh/healthcare/respiratory-therapists.htm>
- SCCM | Critical care statistics. (n.d.). Retrieved April 6, 2017, from <http://www.sccm.org/Communications/Pages/CriticalCareStats.aspx>
- Shanafelt, T. D., Balch, C. M., Bechamps, G. J., Russell, T., Dyrbye, L., Satele, D., ... Freischlag, J. A. (2009). Burnout and career satisfaction among american surgeons. *Annals of Surgery*, 250(3), 463–471.
- Shanafelt, T. D., Balch, C. M., Bechamps, G., Russell, T., Dyrbye, L., Satele, D., ... Freischlag, J. (2010). Burnout and Medical Errors Among American Surgeons. *Annals of Surgery*, 251(6), 995.
- Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D., ... Oreskovich, M. R. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine*, 172(18), 1377–1385.

- Shanafelt, T. D., Hasan, O., Dyrbye, L. N., Sinsky, C., Satele, D., Sloan, J., & West, C. P. (2015). Changes in burnout and satisfaction with work-life balance in physicians and the general us working population between 2011 and 2014. *Mayo Clinic Proceedings*, 90(12), 1600–1613.
- Shelledy DC, Mikles SP, May DF, & Youtsey JW. (1992). Analysis of job satisfaction, burnout, and intent of respiratory care practitioners to leave the field or the job. *Respiratory Care*, 37(1), 46–60.
- Shenoi, A. N., Kalyanaraman, M., Pillai, A., Raghava, P. S., & Day, S. (2018). Burnout and psychological distress among pediatric critical care physicians in the united states. *Critical Care Medicine*, 46(1), 116–122.
- Soler, J. K., Yaman, H., Esteva, M., Dobbs, F., Asenova, R. S., Katic, M., ... European General Practice Research Network Burnout Study Group. (2008). Burnout in European family doctors: the EGPRN study. *Family Practice*, 25(4), 245–265.
- Stoller, J. K. (2001). 2000 Donald F. Egan Scientific Lecture. Are respiratory therapists effective? Assessing the evidence. *Respiratory Care*, 46(1), 56–66.
- Strickland, S. (2015). AARC Respiratory therapist human resource study 2014. *AARC Times*, 39(4), 34.
- Thommasen, H. V., Lavanchy, M., Connelly, I., Berkowitz, J., & Grzybowski, S. (2001). Mental health, job satisfaction, and intention to relocate. Opinions of physicians in rural British Columbia. *Canadian Family Physician Medecin De Famille Canadien*, 47, 737–744.
- Van Dierendonck D, Schaufeli WB, & Buunk BP. (1998). The evaluation of an individual burnout intervention program: The role of inequity and social support. *Journal of Applied Psychology*, 199883(3), 392–407.
- van Mol, M. M. C., Kompanje, E. J. O., Benoit, D. D., Bakker, J., & Nijkamp, M. D. (2015). The prevalence of compassion fatigue and burnout among healthcare professionals in intensive care units: A systematic review. *PLoS ONE*, 10(9), 1–22.
- Wallbank, S., & Hatton, S. (2011). Reducing burnout and stress: the effectiveness of clinical supervision. *Community Practitioner: The Journal of the Community Practitioners' & Health Visitors' Association*, 84(7), 31–35.
- Wei, J., Rosen, P., & Greenspan, J. S. (2016). Physician burnout: What can chairs, chiefs, and institutions do? *The Journal of Pediatrics*, 175, 5–6.
- Wolfe, J. A. (2007). Is health care hazardous to your health? Retrieved November 27, 2017, from <http://www.rtmagazine.com/2007/02/is-health-care-hazardous-to-your-health/>

World health organization. (2019, May 28). *"Burn-out an 'occupational phenomenon': International classification of diseases."* Retrieved June 21, 2019, from WHO website: http://www.who.int/mental_health/evidence/burn-out/en/

Appendices

Appendix A

American Association for Respiratory Care Policy Statement

Policy No.: BOD.027
Page 1 of 4

SECTION: Board of Directors

SUBJECT: Policy for Surveys Conducted by the Association

EFFECTIVE DATE: March 2001

DATE REVIEWED: July 2010

DATE REVISED: December 2014

REFERENCES: CT.0688b Revised

Policy Statement:

1. All surveys of the AARC membership must be reviewed by the Executive Office and approved by the Executive Board before permission will be granted for conducting them.

Policy Amplification:

Definition of Surveys: For the purposes of this policy a survey is a document requesting information that may be used to comprehensively consider an area of subject matter for the purposes of gathering data where the analysis could be considered for academic pursuit, publishing or corporate use.

Definition of Listserve Questionnaires: Any question or questions posed that would be considered for one's own personal/professional use as information gathering for projects in their area of interest, practice, or job. Information gathered in this way would not be used for publication outside of one's institution.

1. Questionnaires/Information requests occurring within AARC Section mail lists (AARConnect) do not require Executive review provided that they adhere to the rules governing them. See attachment A below

Survey Request Procedure

1. The requestor must be an AARC Member for > 1 year and in good standing.

2. The requester must submit a copy of the survey plus communication stating the intent of the survey to the AARC Executive Office, no less than 30 days prior to the requested distribution date. Incomplete applications will be rejected. Please include the following information within the request:

- a. A copy of the proposed survey, preferably a link to the actual survey.
- b. The membership group you wish to survey.
- c. The survey introduction.
- d. A description of how you intend to assure confidentiality of information supplied by members.
- e. A description of how you intend to disseminate the findings to members who participated.
- f. Definitions for abbreviations used in the survey.
- g. A disclosure of possible conflict of interest.
- h. Whether you have Institutional Review Board approval (if applicable)

Note: Surveys will be circulated only on groups that currently exist on AARConnect. These include all AARC Specialty Sections, Roundtables, and, if a cross section of respiratory therapists is needed, the Help Line. Special requests for segmentation of AARC members cannot be accommodated.

3. The Executive Director or designee will evaluate the survey based upon the following criteria:

- a. Overall appearance.
- b. Have similar surveys have been done within the last 24 months? If so, proponent of that survey will be shared with the requestor.
- c. Clarity of questions and appropriateness of format.
- d. No redundancy of questions.
- e. No blatant disregard for the wellbeing of our members or association.
- f. Has the appropriate questions been developed to draw reasonable conclusions.
- g. Has a survey been sent to the same population of AARC members during the last six months? Duplicate surveys will be rejected.
- h. Does the survey provide information about our members or organization that could be used by our competitors or negatively affects our members or business?

4. After Executive Office review and approval a designee will notify the Secretary/Treasurer of the AARC BOD and seek Executive Board approval. The requester will be informed of the decision. If revisions are needed, the requester shall resubmit. Unsatisfactory revisions will be rejected. Once approved the survey will be labeled with the following "This survey has been approved by the AARC for distribution. Please contact the survey proponent, as indicated in the message below, with questions and comments."

5. Approved Surveys will be distributed using web based survey systems (ex surveymonkey) that direct participants away from AARConnect. AARConnect will not be

utilized to respond to surveys, unless it is questionnaire.

6. A brief summary of survey results will be made available within one year to AARC members within the AARConnect library. Summary pdf files (output) provided by the survey tool are acceptable. Most summaries provide the response rate and percentages of responses for each question. If you plan on publishing, please check with the journal to ensure this is not considered a publication. If the journal considers this a publication, the surveyor can wait until publication to provide a citation.

7. The Executive Office can seek assistance from the Executive Committee of the Board of Directors at any time by the following method:

- a. Request for Executive Committee support will be sent to the Secretary/Treasurer for distribution, discussion and vote.
- b. The Executive Committee has the right to make exception to the survey policy on behalf of the Board of Directors.

Attachment A

AARC Participant Listserv (AARConnect) Rules

General

1. Message content must be clinically or operationally relevant to the intent of the AARConnect group.
2. The following are not permitted to be posted. Members posting or contributing to these postings will be notified of their violation, censored, and then removed if their inappropriate behavior continues. Continued violations will be reported to the judicial committee for additional action.
 - a. Advertisements or motions for products, services, job
 - b. Meetings and events not sponsored by AARC or affiliate
 - c. Poems, jokes and other forms of personal expression, chain mail, virus warnings, etc.
 - d. Copyrighted material from a source other than the AARC
 - e. Inquiries and promotions related to products/services by consultants, manufacturers, marketing firms and other similar entities outside of the AARC.
 - f. Discussions relating to pricing or cost of goods as this may be considered price fixing and is a federal offense.
3. The AARC reserves the right to remove anyone for any reason from the AARC electronic mailing list. This includes the archival entries on the Listserv that pertain to a subject considered inappropriate or in violation of the Listserv guidelines.

The Exchange of Information:

1. AARC members may use the Listserv to exchange information between other Listserv Subscribers.
2. When you post a question, or series of questions, be sure that you title it with a good, concise, explanatory title in the subject line to clearly differentiate the message from others being posted or responded to.

3. Regarding information requests posted by Listserv clients, the Section Chair or Executive Office determine if the Listserv posting represents a survey that requires approval. The following guidelines can be utilized to differentiate Listserv information requests from query requests.

3.1 Surveys often include the capturing of user specific information and hospital/department demographics for comparison reporting.

3.2 The creator of a survey will embed a separate link to ask specific questions so participants do not have the option to view other responses. If the creator of this type of inquiry tool has not expressively indicated results will be shared and accessible to all

Listsrv participants, the Section Chair will refer the individual to the Executive Office as per Policy BOD 027.

4. The sender of the information request may instruct section participants to reply to the Listserv, click on a link or reply directly to their personal email.

4.1 In the event responses are sent directly to the personal email or automated survey service (e.g. SurveyMonkey) of the individual who posted the information request, a summary of those responses should be posted so all Listserv participants may share the information. These summaries can be placed in the AARConnect library for future reference.

4.2 If your reply is simply a request to receive a copy of what someone has offered to share, or simply to agree with someone (such as: "Me too"), please do not reply to the entire group. Instead, send your response directly to the person who posted the message.

Appendix B

9/15/2020

Mail - Ahmad Eissa A Alhaykan - Outlook

Re: Permission to use of survey instrument

Eisenberger, Robert W <reisenbe@Central.UH.EDU>

Thu 5/21/2020 8:34 AM

To: Ahmad Eissa A Alhaykan <ahmad.alhaykan@student.shu.edu>; reisenberger2@uh.edu <reisenberger2@uh.edu>

Hi Ahmad,

I am happy to give you permission to use the adapted version of the POS scale.

Cordially,

Bob

Robert Eisenberger
Professor of Psychology
College of Liberal Arts & Soc. Sciences
Professor of Management
C. T. Bauer College of Business
University of Houston
reisenberger2@uh.edu
(302)353-8151

From: Ahmad Eissa A Alhaykan <ahmad.alhaykan@student.shu.edu>

Sent: Wednesday, May 20, 2020 5:02 AM

To: reisenberger2@uh.edu <reisenberger2@uh.edu>

Subject: Permission to use of survey instrument

Dear Dr.Eisenberger,

I am a doctoral candidate at Seton Hall University, completing a dissertation study in Interprofessional Health Sciences & Health Administration program. I am writing to ask written permission to use the Survey of Perceived Supervisor Support (SPSS) in its adapted version (8 items version) from the Survey of Perceived Organizational Support (SPOS) in my research study. I believe that this survey instrument would add value to my research. My research study aims at Exploring the Relationship between Burnout and Supervisory Support among Respiratory Therapists. My research is being supervised by my professor, Dr. Genevieve Zipp, P.T., Ed.D.

I would appreciate receiving a copy of the SPSS instrument and its psychometric properties. I would also value your thoughts or suggestions as well as what steps to use your survey instrument.

Sincerely,
Ahmad Alhaykan

**** WARNING:** This email originated from outside of Seton Hall University. Do not click links or open attachments unless you recognize the sender and know the content is safe. **

Appendix C

6/20/2021

Mail - Ahmad Eissa A Alhaykan - Outlook

From: Shawna Strickland <shawna.strickland@AARC.ORG>
Sent: Thursday, December 17, 2020 12:31 PM
To: Ahmad Eissa A Alhaykan <ahmad.alhaykan@student.shu.edu>
Cc: Amanda Feil <amanda.feil@aarc.org>
Subject: Re: Follow up: A permission Request Survey posting on AARC Connect

Good afternoon, Ahmad

The committee has approved the survey. My colleague, Amanda Feil, will post your survey on AARConnect in the communities of interest (Help, Neo-Peds, Adult Acute, Diagnostics, Sleep, and Ambulatory-Post Acute). She will then close your thread. Please do not promote the survey on AARConnect. We will provide a reminder next Thursday and the Thursday after that on the communities.

Thank you.

[<image001.png>](#)

ShawnaStrickland, PhD, CAE, RRT, RRT-NPS, RRT-ACCS, AE-C, FAARC

Associate Executive Director

9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063

Phone: 972-243-2272

(Pronouns: she/her)

[<image002.png>](#)

Appendix D



November 19, 2020

Ahmad Alhaykan
Seton Hall University

Re: Study ID#2021-151

Dear Ahmad:

The Research Ethics Committee of the Seton Hall University Institutional Review Board reviewed and approved your research proposal entitled, “Exploring the Relationship between Burnout and Supervisory Support among Respiratory Therapists” as resubmitted. This memo serves as official notice of the aforementioned study’s approval as exempt. If your study has a consent form or letter of solicitation, they are included in this mailing for your use.

The Institutional Review Board approval of your research is valid for a one-year period from the date of this letter. During this time, any changes to the research protocol, informed consent form or study team must be reviewed and approved by the IRB prior to their implementation.

You will receive a communication from the Institutional Review Board at least 1 month prior to your expiration date requesting that you submit an Annual Progress Report to keep the study active, or a Final Review of Human Subjects Research form to close the study. In all future correspondence with the Institutional Review Board, please reference the ID# listed above.

Sincerely,

Mara Podvey
Mara C. Podvey, PhD, OTR
Associate Professor

Co-Chair, Institutional Review Board

Phyllis Hansell

Phyllis Hansell, EdD, RN, DNAP, FAAN
Professor

Co-Chair, Institutional Review Board

Office of the Institutional Review Board

Presidents Hall · 400 South Orange Avenue · South Orange, New Jersey 07079 · Tel: 973.275.4654 · Fax 973.275.2978 ·
www.shu.edu

WHAT GREAT MINDS CAN DO

Appendix E



DISSERTATION ORAL DEFENSE FORM

DOCTORAL CANDIDATE'S NAME: Ahmad Eissa A. Alhaykan

PROJECT TITLE: "Exploring the Relationship Between Burnout and Supervisory Support Among Respiratory Therapists"

ORAL DEFENSE DATE: August 24, 2021

I HAVE PARTICIPATED IN THE ABOVE-NAMED STUDENT'S ORAL DEFENSE OF HIS/HER DISSERTATION STUDY AND MY EVALUATION IS AS FOLLOWS:

DISSERT. COMMITTEE CHAIR: Genevieve Pinto Zipp

I evaluate the student's presentation as follows: PASS X FAIL _____

COMMITTEE MEMBER SIGNATURE: Genevieve Zipp PT, EMT, FNAAP

DISSERT. COMMITTEE MEMBER: Michelle D'Abundo

I evaluate the student's presentation as follows: PASS X FAIL _____

COMMITTEE MEMBER SIGNATURE: Michelle D'Abundo

DISSERT. COMMITTEE MEMBER: Lynda Goodfellow

I evaluate the student's presentation as follows: PASS X FAIL _____

COMMITTEE MEMBER SIGNATURE: Lynda J. Goodfellow